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RADC-TR-75-253

Final Technical Report

October 1975

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RELIABILITY GROWTH STUDY.

Hughes Aircraft Company.

9 Final technical Rept.

AD A 023926

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RELIABILITY GROWTH STUDY

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EVALUATION

1. This effort had as its objective the investigation and quantification of electronic equipment reliability growth of two types:

a. Growth in reliability due to operation of the equipment in an environment where failures are reported, analyzed, cause pinpointed and corrective action to the design, production process, or material taken.

b. Growth in reliability due to operation and the ensuing natural weeding out of bad parts and defective workmanship by failures/repairs. Type (a) growth corresponds to in-house testing and type (b) growth to field operation.

2. The objective of the study was met. Six models were extracted from the dozens that were encountered in the literature search and were studied in detail. These were the Duane model, IBM model, exponential model, Lloyd-Lipow model, Aroef model, and the simple exponential.

3. Each of the six models was fitted to data sets (186 data sets for ground equipment and 84 for airborne equipment) which included equipments of different types (communications, radar, data processing, etc.). In addition to including reliability growth information, the data set for each equipment also included information relative to the scope of the reliability program associated with that equipment.

4. In order to determine the degree of fit of the models to the data, two goodness of fit parameters were calculated \bar{R} and R.E. \bar{R} is defined as the average absolute percentage error in the predicted versus the observed values. R.E. measures the fraction of the unexplained variation to the total variation. The smaller the values of \bar{R} & R.E. the better the fit (ideally $\bar{R} = R.E. = 0$).

5. The results indicate that although the Duane model seldom was the best fitting model it almost always fit the data.

6. The IBM model fit airborne data the best. This particular model is very useful because by using it you can estimate the number of non-random failures that are present in an equipment before testing is begun on it. The model also allows you to estimate the fraction of non-random failures that have been removed by some time T which means that if you want to remove a certain fraction of the non-random failures in an equipment you can estimate the amount of test time required to do so.

7. Each of the remaining models was found to be the best fit to the data for specific combinations of environment, equipment type, and aggressiveness of reliability program. Each is discussed in detail in the final report.

8. The reliability gains encountered on the average turned out to be around 5 to 1 which is interesting when compared to the RPM (G.E. growth model) gain of about 10 to 1. This discrepancy could be due to the fact that instead of calculating the limiting MTBF from the models (the Duane model was used for all the reliability gain analysis) the RPM method used the predicted value of MTBF for the limiting MTBF (prediction according to MIL-HDBK-217B).

9. The whole concept of the reliability gain analysis can be somewhat misleading if it is not carefully analyzed. It may and probably is certainly true that the more money that is spent on reliability the higher the MTBF will be. However, there seems to be a point of diminishing returns where the programs with larger expenditures of dollars (usually concentrated in the design phase as opposed to the testing phase) seem to start out with a greater initial MTBF and therefore the potential gain in reliability is less no matter how much money is spent in testing.

10. As expected it was found that a higher reliability gain occurred for ground equipment than for airborne and for in-house testing than for field operation. This might be partially explained by airborne equipment going through more environmental and screening type tests than the ground equipment therefore attaining a greater gain.

11. For each type of equipment in a certain environment and a particular reliability program, the best fitting model can be chosen by comparing the R and R.E. for each which are given in tables in the final report.

12. With this information and a brief look at the examples given, a project engineer, SPO, or anyone else who has a requirement (specified MTBF) to be met can find out how long it will take to reach this goal, how much testing it will take, and aggressiveness of the reliability program required, and the initial MTBF that can be expected from the equipment. By the same token, if someone has an equipment which possesses a certain initial reliability, he can estimate what limiting achievable MTBF he can expect to reach and how long it will take to achieve it.

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SECTION 0.0 - SUMMARY

The data collection and evaluation effort resulted in a data base of two-hundred seventy (270) data sets: one-hundred eighty six (186) data sets on ground based systems/equipments and eighty four (84) on airborne systems. The data were classified further by equipment type, in-house and field, and level of reliability expenditures on the program. The data collection and evaluation effort is discussed in Section 2.0.

A literature search led to the selection of six (6) feasible growth models: Duane, IBM, exponential, Lloyd-Lipow, Aroef and simple exponential. It is interesting to note that the phenomenon of reliability growth was observed on virtually every data set. The models are described in Section 3.0. The popular Duane model, while rarely fitting "best" was seen to fit in almost all cases. The fact that the simple exponential model was far and away most frequently the best fit points out the extreme physical complexity of the growth process since certain properties of the simple exponential model preclude it from being a growth descriptor.

Overall, the reliability gain (final cumulative MTBF divided by initial cumulative MTBF) was on the order of 5 to 1. The reliability gain was greater, generally, for ground than airborne and greater for in-house data than field data.

As expected the reliability gain was greater for moderate to high reliability expenditures than for low reliability expenditures.

An analysis of the Duane model growth rate parameter yielded a growth rate (logarithmic) of 0.45 at a high level of reliability expenditures.

This is very close to the commonly talked about 0.50 figure. While many of the six models fit in a variety of data sets certain conclusions were obvious. For example, the exponential model is vastly superior to the other models for laser systems/equipments. The Duane model seems to do best in-house for radar systems/equipments. The results of the data analyses and comparisons between models and data class factors are given in Section 4.0 and 5.0.

One important inclusion is that growth curve analysis should be approached from the standpoint of stochastic process analysis. This and other conclusions are discussed in more detail in Section 6.0.

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SECTION 1.0 - INTRODUCTION

1.1 Purpose of the Study

The purpose of this study is the investigation of the phenomenon of Reliability Growth for both ground based and airborne systems and equipments in two basic environments:

- i) "in-house" where failure reporting and analysis is closely controlled and corrective actions are taken, and
- ii) "in-field" where the equipment or system operates in its intended use environment and where failures are reported.

Generally, the "in-house" phase above is called the developmental testing phase. The investigation was conducted for both ground-based and airborne electronics equipment and systems.

The specific objectives were: 1) test several (six were used) plausible growth models to determine which models fit growth data well, 2) estimate the limits of reliability gain possible, 3) classify the reliability programs associated with the various data classes with respect to "aggressiveness/control" of the growth process to determine the relationship between this aggressiveness and reliability gain, and 4) establish general guidelines for using reliability growth as a development tool. A more detailed description of both the airborne and ground systems/equipment may be found in Section 2.0.

1.2 Introduction to Growth Curves

In this study when we speak of reliability we will mean, as is usual, the mean time between failure* and designate it MTBF. The phenomenon of reliability growth over time has long been recognized. What has happened to spur the relatively recent (roughly the last three years, see [7], [11], [18]) increased interest in reliability growth as a development tool? The answer is fairly simple

- 1) Due to increased "cost" squeezes it has been realized that the standard reliability demonstration test occurs relatively late in the program to really drive design and to make fixes efficiently.
- 2) It is now recognized that MTBF is not a constant, even for a short time, throughout the development and use cycle and that by monitoring the equipment carefully, making fixes, and analyzing failures valuable reliability information can be obtained in time to do some good.

It should be clear that reliability growth occurs by the finding and removing of defects, misapplied parts and workmanship defects. The rate at which this is done determines the rate of reliability growth. The reliability growth curve (actually a mathematical function fitted to the observed growth data) is a powerful tool in

*One might also consider growth in the reliability function $R(t)$. However, this latter quantity is not often studied in developmental testing programs.

maintaining the growth process and making decisions during the growth process: if the form of the growth curve (function) can be discovered then the parameters of the curve can be estimated early on and present and future (expected) growth can be assessed and fixes made in time to actually improve reliability.

Unfortunately, the growth process is extremely complex and hence difficult to model mathematically. The problems are similar to, in degree of severity at least, those commonly encountered in projecting the results of accelerated tests to normal operating conditions. The situation is complicated further by the fact that almost any mathematical function which is positive and monotone increasing in t (time > 0) is a candidate. If one is not careful the problem reduces to the empirical fitting of ad-hoc models with no physical interpretation in terms of the process being observed. In the next section we discuss the approach taken in this study to avoid some of these problems. Before proceeding to the next section a final remark: growth curves are useful in practically all areas of endeavor, e.g., economics, industrial job learning, biological processes and others. Thus the really deeply interested reader may want to search the literature in these fields. In this report we have searched only the reliability related literature.

1.3 The Study Approach

The basic approach to achieving the objectives mentioned in Section 1.1 can best be described in terms of the study tasks.

Study Tasks

1. Conduct a literature search to identify possible growth models.

The useful results of the literature search are given in the references and bibliography. Actually many more articles and papers were turned up but were not used in this study. It was clear from the literature search that at the present time the overwhelmingly most popular growth model was the Duane model; in fact quite possibly more popular than all the other models combined. The other models were selected on the basis of their intuitive plausibility, the fact that their parameters are interpretable in terms of the growth process, because their forms are tractable enough to allow reasonably straightforward methods of estimating their parameters and finally, because they contained no more than three parameters. The six models selected are described in Section 3.0.

2. Identify data sources; collect and evaluate the data.

The results of this task are described in Section 2.0.

3. Develop computational methods.

This task involved the selection and/or development of methods for estimating the unknown parameters in the six models. The resulting methods are described in Section 8.0.

4. Selection of data analyses to be performed.

This task involved the decision as to what analyses were to be performed on the available data. As a first step system equipment data classes were formed.

Actually the establishment of data classes formed the foundation for all the data analyses. The factors defining the classes are four:

Type of system/equipment

Environment:

Airborne and ground.

Type of data:

In-house and field.

Aggressiveness of
Reliability Program:

R1 - 0% of total program acquisition costs expended on Reliability.

R2 - less than 1% but more than 0% of total program acquisition costs expended on Reliability.

R3 - more than 1% of the total program acquisition costs expended on Reliability.

Equipment Category

Antennas, radars, etc. for a total of fifteen (over ground and airborne).

In each data class there may be more than one data set and some data classes may be empty. Since the data was gathered after the fact rather than from a statistically designed experiment the "holes" (e.g. no R2 data on ground based radars) are to be expected. Table 2.5 gives a complete picture of the data sets. It is enough to say here that there are a total of 186 data sets for the ground based systems/equipment and 84 data sets for the airborne systems/equipment. Data with less than three failures was not used because it was insufficient to enable fitting of the models.

It was mentioned in Section 1.1 that the amount of reliability gain was also of interest. Thus the following data analyses are required:

- a) Estimate the unknown parameters of the six growth models by data set.
- b) Compute the goodness of fit criteria for each of the six models for each data set.
- c) Decide on the best model for each data set.
- d) Analyze data for generalizations applicable to the data classes: airborne vs. ground, in-house vs. field and R1 vs. R2 vs. R3.
- e) Evaluate reliability gain for each data set.

- f) Analyze reliability gain for possible generalizations in terms of data classes.

These analyses and the conclusions based upon them are discussed in Sections 4.0 and 5.0 respectively.

5. Develop guidelines for applications.

The purpose of this task is to develop guidelines for the general application of growth models, i.e., what type works well, the gain expected and the goodness of fit expected with respect to the type of data (in-house vs. field), type of environment (airborne vs. ground) and R1, R2, R3. These guidelines are given in Section 6.0.

The models developed herein can be used for two basic purposes. First, during the development phase the model(s) can be used to monitor, control, and predict reliability growth. The data required are the n (= no. of failures) pairs cumulative MTBF and time at failure. The model(s) may then be fit according to the methods given in section 8.0; in particular section 8.4.9. By far the most important use is before the development program begins. A model can be used to predict development time required to achieve a certain MTBF and to estimate initial MTBF. The data required to use the model in this way is the model type, environment, type of equipment, and preliminary parameter estimates from this report. Examples of this important use are given in section 6.1.

SECTION 2.0 - DATA SOURCES, COLLECTION AND EVALUATION

2.1 Data Search

2.1.1 Internal. Data collection began with an internal source survey of electronic systems that might yield usable data. The Systems Effectiveness Department of Hughes Aircraft Company, Ground Systems Group, has personnel with first hand knowledge of most systems built at Hughes Aircraft. In addition Hughes has internal reports such as the Contract Assignment Report and the Closed Contract Register for both Ground Systems and Airborne Systems. Through these reports and the suggestions given by the Systems Effectiveness Department personnel, a list of systems, project heads, managers, reliability engineers, and other information were compiled. Personal and telephone contact was made with the responsible people for each system or project. From each of these a request was made for a description of the reports and the data available, the period of data collection and the names of the reports and people who could supply the reports.

A literature search by the Hughes-Fullerton Library brought forth several useful systems, final reports and acceptance reports.

2.1.2 External. A literature search by the National Aeronautics and Space Administration and by the Defense Documentation Center yielded no useful failure histories. Such reports gave final MTBF and total failures, but none gave a history of cumulative failures versus cumulative time.

Personal contacts with the personnel at the Naval Ship Weapon Systems Engineering Station Port Hueneme, California, led to a large data base for ground systems computers and displays.

2.2 Data Collection

2.2.1 Data Requests. Requests were sent to both internal and external agencies for the various reports. Reports received were of the following types: Monthly reports, final reports, Interdepartmental Correspondence (IDC), Operations and Maintenance Reports (OMR), computer failure listings and Reliability and Maintainability (R/M) Reports. In some cases the reports were so large (several years of monthly reports) it was necessary to sort through boxes of reports and make copies of only the summary data tables and graphs of interest.

2.2.2 Data Center search. The Systems Effectiveness Department maintains a R/M Data Center which contains information gathered during in-house testing and field operations on most of Hughes built systems. A search of the Data Center files gave a large part of the useful data for Ground Systems and some data on Airborne Systems. The data found was of the following types: Field logs, field engineering reports, proposals, failure reports, customer requests, IDC's, OMR's, R/M reports, monthly and final reports.

2.2.3 Special file. As these reports were received, they were evaluated for useful information. If they were found to be useful, a copy was placed in a special growth study file in the Data Center to be used as source material for this study. Tables 2.1 and 2.2 give a description of the systems on which data were collected.

TABLE 2.1

System/Equipment Description - Ground

System/Equipment Number*	Description	Period of Data Collection
1	Shipboard Radar	Aug 1973 to Jun 1974
2	Ground Based Radar	Apr 1969 to Apr 1971
4	Satellite Microwave Link	Mar 1968 to Aug 1974
5	Shipboard Satellite Microwave Communication	Feb 1967 to Sep 1968
7	Weapon Control	Oct 1971 to Aug 1972
8	Radar Display	Apr 1966 to Jul 1972
9	Computer	Nov 1967 to May 1968
11	Ground Based Radar	Jun 1967 to Apr 1970
12	Shipboard Radar	Sep 1965 to May 1973
13	Computer	Apr 1969 to Oct 1969
14	Computer	Jun 1968 to Jun 1970
15	Computer	Oct 1971 to Jul 1974
16	Shipboard Radar	Aug 1968 to Aug 1969
17	Radar Display and Computer	Jun 1971 to Aug 1972
18	Ground Based Radar	Mar 1973 to Dec 1973

*Numbers 3, 6 and 10 were eliminated after subsequent analysis showed them to be unsuitable.

TABLE 2.2

System/Equipment Description - Airborne

System/Equipment Number	Description	Period of Data Collection
20	Laser Range Finder	Sep 1971 to Apr 1972
21	Laser Bombing System	Feb 1969 to Jun 1969
22	Visual Scan System	Sep 1970 to Nov 1970
23	Infrared System	May 1963 to Jul 1963
24	Infrared System	Jan 1974 to Feb 1975
25	Radar System	Jan 1972 to Aug 1972
26	Airborne Computer	Jul 1962 to May 1968
27	Radar System	May 1972 to May 1974

2.3 Data evaluation. The final evaluation of the data was based upon three criteria.

2.3.1 Time. First, was the time period long enough to establish some historical growth at normal operations? More than just a few short hours are required. In most cases a continuous history, with a starting time at zero, was maintained for in-house operations. There was a break in time when most systems went into the field. The reason for this, in large systems, is the modular nature of construction. Several systems and their spares would be sent to the field and reassembled in a different (from the original) modular serial number configuration. Also, there would frequently be long gaps of time in the failure reporting or none at all from the field operations.

2.3.2 Failure definition.

2.3.2.1 Relevant failure. The second criterion is: Was the failure relevant? Non-relevant failures were secondary failures, human caused failures and failures of known bad parts. Sometimes, after installation, parts were found to have manufacturing defects, to be below standards or were overstressed, but would be left in the system and replaced upon failure. This would be with customer's agreement. Such failure of parts after this determination were considered non-relevant. All other primary failures were accepted as relevant. If no determination could be made, the failure was considered relevant.

2.3.2.2 Primary failure. Third, was the failure primary? If the failure was relevant, caused the equipment or the system to operate in an unacceptable manner and was not caused by another relevant failure, the failure was primary. Sometimes failures would be caused by a primary failure; such failures were called secondary and were not recorded as a failure. If it could not be determined that a failure was secondary, the failure was then considered primary. Most of the reports used in this study had already filtered out non-relevant and secondary failures.

2.3.3 Useful data. In finding and selecting the useful data within these reports, the form most useful was the table or graph of failures versus cumulative time. In some cases, the failures were taken from a table or graph of MTBF versus cumulative time. In most cases, many tables and graphs had to be merged to give a useful failure history.

Each equipment category, with its corresponding failure history for each serial numbered system and/or equipment, was called a data set. There were many data sets that had to be discarded because of too few failures. Even though the equipment may have operated thousands of hours, the data sets with two or less failures were rejected. A reliability growth evaluation is meaningless for two or less data points. A description of each equipment category is given in table 2.3.

2.4 Construction of data categories.

After evaluation, the data was recorded in tables with such information as: system name, serial number, period of data collection, in-house or field data, description of equipment categories, cumulative failures and hours. Table 2.4 is a sample of the data collected on a system.

2.4.1 Ground and airborne. Ground systems/equipments are those electronic systems/equipments (Radar and microwave systems) installed at a fixed site or those

TABLE 2.3
Equipment Categories

Equipment	Description
1. Antenna	Pedestal, dish, driver gears, motor, hydraulics
2. Radar	Receiver, exciter, signal processor, transmitter, power supplies
3. Microwave	Receiver, exciter, klystron, transmitter, power supplies
4. Display	CRT, data input console, display controls, power supplies
5. Computer	Computer circuits, CPU, memory, power supplies
6. Communication	Radio receiver, teletype, etc.
7. System-Radar	Complete radar system
8. System-Microwave	Complete microwave system
9. System-Laser	Complete laser system
10. System-Infrared	Complete infrared system
11. System-Visual Scan	Complete system for night time sighting
12. Laser Transmitter	Laser transmitter and optics, control electronics, power supplies
13. Laser Receiver	Photo diode detector and optics
14. Laser Xmtr/Rcvr	Laser transmitter and receiver, control electronics, power supplies
15. Infrared Receiver	IR receiver and amplifier, power supplies

TABLE 2.4

Sample Page of Data

SYSTEM: MK-1B (AN/MS-46)
DATA: FIELD (B)
PERIOD: AUG 1966 - AUG 1974

TYPE OF TEST: OPERATION AV. 20 HRS/DAY

EQUIPMENT SUBSYSTEMS:

ANTENNA

1. Servo
2. Drive
3. Radome
4. Antenna 40' Dia.

MICROWAVE

1. Transmitter
2. Exciter
3. Receiver
4. Heat Exchanger
5. Klystron
6. Pwr. Amp.
7. Tracking
8. Power

COMMUNICATION

1. Receiver
2. Terminal Equipment

Ref: Report in R/M Data Center Files

TABLE 2.4

Sample Page of Data* (Continued)

LOCATION TDYR - TURKEY		ANTENNA	MICROWAVE	COMMUNICATION	SYSTEM
DATE	CUMULATIVE OPER. HOURS	CUMULATIVE FAILURES			
10/1/69	620		3		3
	1220		4		4
	1840		8		8
	3120		9		9
	4340	1	13		14
	4940		20	1	22
	5560	2	23		26
	6180		25	2	29
	6780		28		32
	7400	3	31	5	39
	8000		39	6	46
	8620		45	7	55
	9240		48		58
	9800		51		61
	10420	4	52		63
	11020		54	8	66
	11640	5	59		72
	12240		61		74
	12860	7	65	9	81
	13480	9	70		88
	14080	10	80	10	100
	14700	11	86		107
	15300		90		111
	15920	13	92		115
	16540	14			116
	17120		101		125
	17740	15	104		129
	18340		109		134
	18960		110		135
	19560		114		139
	20180		116		141
8/31/72	20800		118		143

*The "gaps" that occur in the cumulative failures are due to the failure to record failures continuously in time

which are mobile (truck or ship). They have good engineering operation and maintenance, and adequate cooling. They are sometimes subjected to high levels of shock and/or vibration. Hughes Aircraft Company at Fullerton is the Ground Systems Group where most of the ground systems/equipments were built and tested. These tests generated most of the in-house data used in this report. Airborne systems are those electronic systems (radar, laser, IR systems) used in airplane cockpits, bomb-bays, and/or tail or wing installations. The airborne environment generally has extremes of pressure, temperature, shock and vibration. Hughes Aircraft Company at Culver City has the main offices of the Aerospace Group from which the airborne systems data was gathered.

2.4.2 Equipment type. Equipment categories were established for logical subdivisions of the more complex systems. For example, displays, radars, computers, etc. The system itself was assigned to one category. This gave a total of fifteen equipment categories. The use of reference designators for equipment categories (such as E1, E2, etc.) were found to be too confusing and was discontinued. A description of each equipment category is given in table 2.3.

2.4.3 In-house versus field. The in-house data came from good documentation on Hughes built systems during the developmental phase. Whenever the system was under Hughes control, operated and repaired by Hughes personnel, the system was considered to be in-house. The field data came from systems under customer control. In some cases Hughes representatives would make field failure logs for a period of time for a system just received by the customer. Most field data was taken from customer reports to Hughes Aircraft Co. Such reports were at times sketchy as to the nature of the failure, but were taken at face value. In-house data was considered more accurate, but field data generally had more hours of operation.

2.4.4 Quality of parts. A review of the quality of parts for the various systems, the type quality purchased, their in-house testing and screening was made. It was found, that regardless of whether the part was commercial or had high reliability standards, the average of all parts in a system was a minimum military grade. This was true for both ground and airborne systems and equipments. The commercial parts came mostly from purchased assemblies such as a television monitor or a power supply. The high reliability parts were used in some critical areas such as computer memory circuits. The upgrading of the part quality was established by severe burn-in and testing of units or long hours of in-house equipment operation. This was usually a contractual procedure that varied from contract to contract. Therefore a one grade level of part quality had to be established at minimum military standard.

2.4.5 Reliability effort. Most current contracts call for a reliability program plan to insure a system with an acceptable mean time between failure (MTBF). To establish some concept of this reliability effort between different systems, the money spent by a project on reliability was divided by the total contract money to derive a reliability effort percentage.

$$R = \frac{\text{Reliability \$}}{\text{Total Contract \$}} \times 100$$

Three divisions of reliability effort were established. For those projects where the reliability engineering was not set forth separately, and the money spent on reliability could not be separated from the other costs, a low (R1) reliability effort was

assumed. A medium (R2) reliability effort was set at one percent or less but greater than zero. Those projects which spent greater than one percent on reliability were called high (R3).

R1 = 0.0% Low

0.0% < R2 < 1.0% Medium

R3 ≥ 1.0% High

There are other variables which can affect the aggressiveness of the reliability program, e.g., the ratio of digital to analog parts; extent of parts standardization and others. Although these factors have not been quantified in this study we can say that they were relatively constant for our data base.

2.5 The Data Base

2.5.1 Equipment data class. The equipment data class is the group of data sets for a particular equipment category, ground or airborne system, in-house or field and one of the divisions of reliability effort (R1, R2, R3). As an example, there were three data sets in the equipment data class for antennas, ground system, in-house and reliability effort R3. It was not possible to find data for all the equipment data classes. Table 2.5 shows the distribution of data sets in the equipment data classes. The number of prototypes can affect the growth results but for our data, most of the in-house systems were developmental models.

2.5.2 Data set distribution. The data set was the failure history for each equipment that was used for analysis. The number of data sets used in each data class (summed over system/equipment categories) is given in table 2.6.

2.5.3 Summary

- a. Twenty seven systems were found with useful data.
- b. Fifteen equipment categories were established.
- c. Number of data sets: 186 data sets for ground systems/equipments and 84 data sets for airborne systems/equipments.
- d. Quality of parts averaged out at a minimum military standard.
- e. Reliability effort: low (R1), medium (R2) and high (R3).
- f. Data sets were coded and put into computer file for analysis. See table 2.7 for sample data set.

TABLE 2.5
Equipment Data Class Distribution

Ground Systems							
Equipment Categories	In-House			Field			Total
	R1	R2	R3	R1	R2	R3	
Antenna			3	21			24
Radar			5	8			13
Microwave	1			20			21
Display		5	7	9	23	3	47
Computer	5	1	8	19		3	36
Communication			2	12			14
System - Radar			2	8			10
System - Microwave	1			20			21

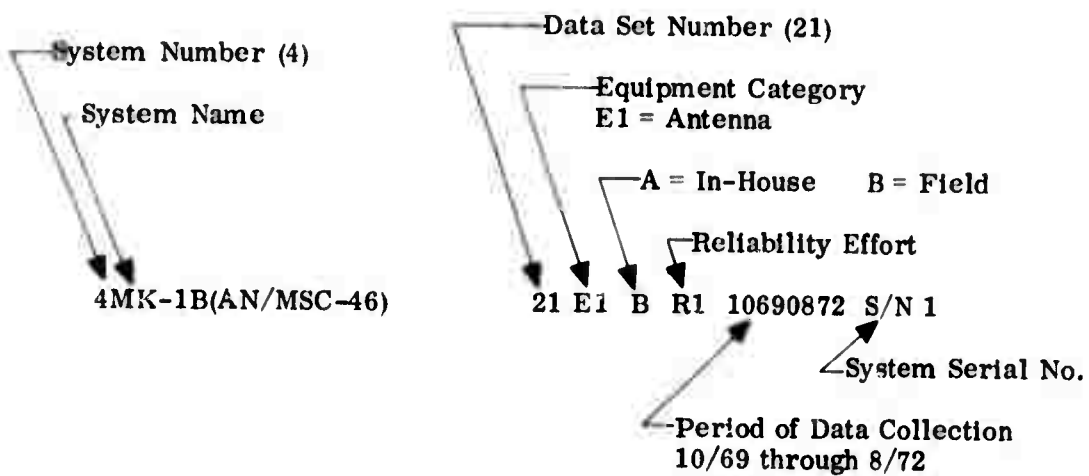
Airborne Systems							
Antenna		5					5
Radar		6					6
Display		6					6
Computer	5	5					10
Laser Transmitter	2		2				4
Laser Receiver	1		2				3
Laser Xmtr/Rcvr	2		2				4
Infrared Receiver	3	1					4
System-Radar		6					6
System-Laser	2		2				4
System-Infrared	4					26	30
System-Visual Scan		2					2

TABLE 2.6
Data Set Distribution

	Ground Systems/Equipment			Airborne Systems/Equipment			Total
	R1	R2	R3	R1	R2	R3	
In-House	7	6	27	19	31	8	98
Field	117	23	6			26	172
Total	124	29	33	19	31	34	270
Ground Systems/Equipment Total = 186				Airborne Systems/Equipment Total = 84			

TABLE 2.7

Sample Data Set as Coded in Computer File

Explanation of Data Set CodeDATA SET

4MK-1B(AN/MSC-46)

21 E1 B R1 10690872 S/N 1

1	4340
2	5560
3	7400
4	10420
5	11640
7	12860
9	13480
10	14080
11	14700
13	15920
14	16540
15	17740
16	22020
17	23240
19	31160
20	31720
21	32940
22	33560
	35400

Cumulative Hours

Number of Failures

SECTION 3.0 - DESCRIPTION OF GROWTH MODELS

In this section we will give a description and derivation of the mathematical models used to fit the growth data in this study. In so doing it is hoped some light will be cast on the physical assumptions about the growth process inherent in the various mathematical functions used.

3.1 The Duane Model

In reference [8] J. T. Duane observed that the logarithm of cumulative MTBF was a linear function of the logarithm of time. That is, (letting $Y(t)$ denote cumulative MTBF)

$$\ln Y(t) = a + b \ln t \quad (3.1)$$

This model is extremely popular for modeling reliability growth. For example, NAVAIR has a series of reliability test program specifications (AR-104, AR-111, AR-112, AR-113) based on the Duane model.

The idea is to estimate the parameters (a,b) and monitor reliability growth with equation (3.1). The method of estimation commonly recommended is to obtain the least squares estimates of (a,b).

Actually, if the matter had ended here, it would be an unsatisfactory situation: just another empirically derived fit. However, Crow [7] and independently, Finkelstein [10] noticed that for a nonhomogenous Poisson process with Weibull intensity function the expected number of events (failures) in time t is given by

$$E(\text{no. of events in } t) = (t/K)^\beta. \quad (3.2)$$

Hence, the cumulative MTBF, $Y(t)$, by definition must be

$$Y(t) = t/E(\text{no. of events in } t) = K^\beta t^{1-\beta}$$

and hence

$$\ln Y(t) = \beta \ln K + (1-\beta) \ln t. \quad (3.3)$$

Setting $1-\beta = b$ and $\beta \ln K = a$ and inspecting equation (3.1) it is clear that the Duane model corresponds to a nonhomogenous Poisson process with Weibull intensity function (the intensity function is

$$d[E(\text{no. of events in } t)]/dt = \frac{\beta t^{\beta-1}}{K^\beta}.$$

The implications of the foregoing are most important. First, the time to occurrence of events (failures) are not independent, identically distributed random variables. Indeed only the first time to failure has a Weibull distribution. Second, inspecting equation (3.1) indicates growth only occurs when $b > 0$. This means $1-\beta > 0 \Rightarrow \beta < 1$.

Thus, growth is observed only if the Weibull shape parameter is less than one. Finally, the implications on estimation of K and β are important. The least squares method is no longer needed, being inefficient, since the maximum likelihood estimates are available and are

$$\hat{\beta} = n / \sum_{i=1}^n \ln (t^*/t_i)$$

$$\hat{K} = t^*/n^{1/\hat{\beta}}, \quad (3.4)$$

where

t_i = time of i^{th} failure

n = total number of failures observed

$$t^* = \begin{cases} t_n & \text{if the test is stopped at the last failure} \\ t & \text{if the test is stopped at time } t > t_n. \end{cases}$$

Exact confidence bounds for β are easily obtained since $2n(\hat{\beta}/\beta)$ is distributed as χ^2 (chi-square) with $2(n^*-1)$ degrees of freedom where $n^* = n$ if $t^* = t_n$ and $n^* = n+1$ if $t^* = t > t_n$. It also turns out that $(\hat{K}/K)^\beta$ is distributed independently of β and K and exact confidence bounds on K can be prepared using Table 1 of ref [11]. The preparation of confidence bounds on β is extremely important since even if the observed data yield $\hat{\beta} > 1$ the goodness of fit of a Duane model cannot be rejected if the lower confidence bound, say β_L , on β is less than one i.e., if $\beta_L < 1$ the hypothesis that there is growth ($\beta < 1$) cannot be rejected.

Since the time to first failure is Weibull with mean $K\Gamma(1/\beta + 1)$, where $\Gamma(u)$ is the usual gamma function evaluated at u , an estimate of the initial MTBF is given by

$$\hat{K} \Gamma(1/\hat{\beta} + 1). \quad (3.5)$$

Equation (3.5) will be extremely important to us when we are estimating reliability gain. A discussion of nonhomogenous Poisson processes can be found in Parzen [14].

An important quantity in the Duane model is the instantaneous MTBF which is taken as the reciprocal of the intensity at time t i.e.,

$$\text{instantaneous MTBF} = \left[\frac{dE(\text{no. of events in } t)}{dt} \right]^{-1} = \frac{K^\beta t^{1-\beta}}{\beta}. \quad (3.6)$$

The maximum likelihood estimate of this quantity is given by

$$\frac{\hat{K} \hat{\beta} t^{1-\hat{\beta}}}{\hat{\beta}} \quad (3.7)$$

This instantaneous MTBF can be estimated for any future time, t_f , by applying equation (3.7). Also, and very important, Crow [7] gives a method, with tables, for preparing confidence bounds on the instantaneous MTBF at the time of the last of observed failure t_n . The limiting MTBF of the Duane model is the instantaneous MTBF at the time equipment improvement is stopped.

3.2 The IBM Model

This model is based on an approach quite different from the nonhomogenous Poisson process approach of the previous section. It is based on the solution to a differential equation. The IBM model assumes, explicitly, that: 1) there are random (constant failure rate) failures occurring at rate λ , and 2) there are a fixed but unknown, number of non-random design, manufacturing and workmanship defects present in the system at the beginning of testing. Let $N(t)$ be the number of non-random type defects remaining at time $t \geq 0$. This model makes the intuitively plausible assumption that the rate of change of $N(t)$ with respect to time is proportional to the number of non-random defects remaining at t . That is,

$$d N(t)/dt = -K_2 N(t) \quad (3.8)$$

Equation (3.8) implies that

$$\ln N(t) = -K_2 t + c$$

and hence

$$N(t) = e^{-K_2 t + c}$$

Now if we denote the unknown number of non-random failures present at $t = 0$ by K_1 then

$$N(0) = K_1 = e^c$$

and finally

$$N(t) = K_1 e^{-K_2 t} \quad t > 0, K_1, K_2 > 0. \quad (3.9)$$

Defining $V(t)$ to be the expected cumulative number of failures up to time t then

$$V(t) = \lambda t + K_1 - N(t)$$

$$\begin{aligned}
&= \lambda t + K_1 - K_1 e^{-K_2 t} \\
&= \lambda t + K_1 (1 - e^{-K_2 t}).
\end{aligned} \tag{3.10}$$

Thus the expected cumulative number of failures by time t is the expected number of random failures by time t plus the expected number of non-random failures removed by time t . It should be noted that $V(0) = 0$ as expected. Moreover

$$\lim_{t \rightarrow \infty} V(t) = \lambda t, \text{ as expected.}$$

Because of the non-linearity of the model (3.10) the estimation of λ , K_1 and K_2 must be accomplished by iterative means and this is discussed in Section 8.3.

There are some extremely nice features of this model. In addition to being "plausible" the most interesting feature is the ability of the model to predict the time when the system/equipment is "q" fraction debugged (i.e., q fraction of the original K_1 non-random failures have been removed, $0 < q < 1$). The number of non-random defects removed by time t is clearly

$$N(0) - N(t) = K_1 - K_1 e^{-K_2 t}$$

and hence the fraction (of K_1 initial non-random defects) removed by time t is

$$q = \frac{K_1 - K_1 e^{-K_2 t}}{K_1} = 1 - e^{-K_2 t} \tag{3.11}$$

Thus having estimated K_2 , say \hat{K}_2 , we can find the time at which $q=0.95$ of the nonrandom defects have been removed by solving (3.11) for $t_{0.95}$. That is,

$$t_{0.95} = \frac{-\ln 0.05}{\hat{K}_2}.$$

In general, for arbitrary q , $0 < q < 1$ the time by which the system/equipment is q fraction debugged is

$$t_q = \frac{-\ln (1-q)}{\hat{K}_2} \tag{3.12}$$

Equation (3.12) is a powerful tool because it can be used to help determine the length of development testing.

K_2 : The growth function; constant in this case.

The disadvantage of this model is clear enough. Like the IBM model it has three parameters and is non-linear in t ; nor can it be transformed to a linear function of t . Thus the least squares estimates of K , K_1 , and K_2 must be obtained by iterative procedures. This procedure is discussed in Section 8.3. More details on this model can be found in ref [15].

3.4 The Lloyd-Lipow Model

This model is also obtained as the solution to a differential equation, where the equation involved results in a property not possessed by any of the other models treated in this report. Suppose that the growth rate is inversely proportional to the square of the growth factor t , i.e.,

$$dY(t)/dt = K_2/t^2, \quad K_2 > 0. \quad (3.15)$$

Then clearly,

$$Y(t) = K - K_2/t. \quad (3.16)$$

Here K is a constant of integration but it should be noticed that

$$\lim_{t \rightarrow \infty} Y(t) = K$$

and thus K is the limiting value of cumulative MTBF.

The parameter K_2 is a growth rate parameter which also affects the location of the curve. Since $Y(t)$ cannot be negative and

$$\lim_{t \rightarrow 0} Y(t) = -\infty$$

we must define

$$Y(t) = 0, \quad 0 \leq t < K_2/K$$

This definition provides a time period $(0, K_2/K)$ when the cumulative MTBF is 0 (i.e., a period of no growth) which may be realistic for certain systems/equipments.

By making the change of variable $t' = 1/t$ we see that

$$Y(t') = K - K_2 t'$$

and thus $Y(t')$ is linear in t' with slope K_2 and intercept K which means the parameters K and K_2 can be easily estimated by the usual least squares methods. This model is discussed further in ref [13].

3.5 The Aroef Model

In this case we assume that the growth rate is jointly proportional to the growth achieved at t , i.e., $Y(t)$, a constant multiplier (growth rate parameter) K_2 and inversely proportional to t^2 . That is,

$$dY(t)/dt = K_2 Y(t)/t^2. \quad (3.17)$$

This differential equation has the solution

$$Y(t) = K e^{-K_2/t}. \quad (3.18)$$

Since $\lim_{t \rightarrow \infty} Y(t) = K$ the reliability growth limit in cumulative MTBF is K . Also

$$\lim_{t \rightarrow 0} Y(t) = 0.$$

Since

$$\ln Y(t) = \ln K - K_2/t,$$

letting

$$t' = 1/t,$$

$$\ln Y(t') = \ln K - K_2 t' \quad (3.19)$$

and usual linear least squares methods can be used to estimate the constants K and K_2 .

3.6 The Simple Exponential Model

The last model we consider in this study is the simple exponential model

$$Y(t) = K e^{K_2 t} \quad K, K_2 > 0. \quad (3.20)$$

While $Y(t)$ can be obtained as the solution to a certain differential equation it is not a plausible model. The limit (as $t \rightarrow \infty$) of $Y(t)$ is infinite. Also $Y(0) = K$ which is the "initial" cumulative MTBF. Since $\ln Y(t) = \ln K + K_2 t$ then the linear least squares method can be used to fit the constants.

We have included this model as a more or less check on the data and the other models: if this model fits well and often then it may be that either the growth process is quite complex or the other models tried are not very good.

3.7 Criteria for the Goodness of Fit of the Models

There are any number of mathematical functions which can be used to describe reliability growth. One approach to fitting growth curves is to select a very large number of mathematical functions and select the one that fits best. This approach is grossly unsatisfactory and not just because the criterion (or criteria) of "best" may be somewhat arbitrary. The problem is that, for any data set, an arbitrarily good fit can be obtained by selecting a mathematical function with enough parameters. Thus, no matter how "misbehaved" a given data set may be, a mathematical function can be found which will fit it. In essence this amounts to basing all decisions solely in the data and ignoring any other physical/engineering information. Moreover, the problem of interpreting the physical meaning of more than three parameters is very difficult. In this study we have limited all models to at most three parameters.

The Duane model parameter estimates were obtained by maximum likelihood methods because they are superior to the least squares estimates. For all other models the least squares estimates (obtained, in some cases, by suitable linearization) were used. It is important to note that the usual quantities for judging goodness of fit one hears about: coefficient of multiple determination, F tests, t tests for the model coefficients etc. are not applicable since the assumption that the data are multivariate normally distributed has no basis in fact.

Thus we have selected what we feel are two measures of the goodness of model fit. First, we compute

$$\bar{R} = \left(\sum_{i=1}^n \left| \frac{Y(t_i) - \hat{Y}(t_i)}{Y(t_i)} \right| / n \right) 100. \quad (3.21)$$

In equation (3.21) $Y(t_i)$ is the observed cumulative MTBF at time t_i , $\hat{Y}(t_i)$ is the calculated (from the fitted model) cumulative MTBF at time t_i , and n is the number of failures in the data set. Thus $i = 1, 2, \dots, n$. Of course a value of $\bar{R} = 0$ would be ideal but generally this is impossible. Certainly, a good fit would be expected to have $\bar{R} \leq$ about 25%. In words, \bar{R} is the average absolute percentage error in the predicted versus the observed values.

The second measure of goodness of fit is defined in terms of relative variability

$$R.E. = \frac{s_e^2/n-2}{s_{Y(t_i)}^2/n-1} \quad (3.22)$$

where

$$s_e^2 = \sum_{i=1}^n \left[Y(t_i) - \hat{Y}(t_i) \right]^2$$

$$S_{Y(t_i)}^2 = \sum_{i=1}^n \left[Y(t_i) - \overline{Y(t_i)} \right]^2$$

$Y(t_i)$ = observed cumulative MTBF at t_i

$\hat{Y}(t_i)$ = calculated cumulative MTBF at t_i

$$\overline{Y(t_i)} = \sum_{i=1}^n Y(t_i)/n$$

Thus, in equation (3.22) the denominator is the sample variance of the observed cumulative MTBF's and the numerator is the squared residual error. The ideal situation would be R.E. = 0 i.e., there is no residual error. This is generally impossible but small values of R.E. indicate good fits.

For one particular given data set if a particular model has the lowest \overline{R} and R.E. of all the models then that model is the best fit.

SECTION 4.0 - DATA ANALYSES

4.1 Estimation of Model Parameters

In this section we discuss the data analyses from the standpoint of the parameter estimates for each model and give an example of the use of each model. Comparisons between models and between factors of the data classes and general conclusions are given in Sections 5.0 and 6.0. The analysis of reliability gain is also presented in Section 5.0.

As previously mentioned there were a total of 270 data sets: 186 for ground based systems/equipment and 84 for airborne systems/equipment. This is less than the total amount of data collected since data sets with less than three failures were not used. Each of the six models was fitted to the 270 data sets. That is, the parameters of the models were estimated by the techniques discussed in Section 8.0. The results of the parameter estimation are given in Tables 4.3 and 4.4. However, Table 4.1 should be used in conjunction with Tables 4.3 and 4.4. Table 4.1 gives the explicit form of the models and the notation necessary to use the results given in Tables 4.3 and 4.4. In order to keep some degree of order in the computer routines the "parameter" estimates were designated simply P1, P2, P3 and P4. In addition to the parameter estimates Tables 4.3 and 4.4 give the system number (decoded in Table 2.1), number of failures, total hours of observation, and the two measures of goodness of fit \bar{R} and R.E. (which are defined in Section 3.7).

4.1.1 Results for the Duane Model. The parameter β is the growth parameter. That is, in the Duane plot of \ln cumulative MTBF versus \ln time, $1 - \beta$ is the slope (see Section 3.1 for more details). Since growth only occurs when $1 - \beta > 0$ the Duane model cannot be described as a good fit unless $\beta < 1$. Of course we only have an estimate of β , namely $\hat{\beta}$ (P1 is computer notation) and $\hat{\beta}$ is subject to sampling error. This explains the "parameter" of β_L (P3) given in Tables 4.3 and 4.4. β_L is the lower 0.90 confidence limit for β based on the particular data set under discussion. This lower confidence limit is extremely important because $\hat{\beta} > 1$ does not prove $\beta > 1$ due to the sampling error involved in $\hat{\beta}$. By using β_L in a simple way we can test a hypothesis about β : if $\beta_L < 1$ then it could easily be that $\beta < 1$ even though $\hat{\beta} > 1$. On the other hand if $\beta_L > 1$ then clearly (i.e., with at least 0.90 confidence) $\beta > 1$ and the Duane model projects "negative" growth. In this latter case ($\beta_L > 1$ hence $\beta > 1$) we have not proved that the Duane model (which, as mentioned in Section 3.1, corresponds to a nonhomogenous Poisson process with Weibull intensity function) doesn't fit. It may be that the model doesn't fit; it may also be that there indeed was no growth present in the data. To handle this latter problem we calculated the quantity C_M^2 (P4). This is a goodness of fit statistic given in Crow in [7]. The table of critical values for C_M^2 is reproduced in Table 4.2 for varying levels of significance.

In inspecting Table 4.3 for the Duane model results it can be seen that $\hat{\beta}$ is, in the large majority of cases, less than one, i.e., growth is positive. Moreover, inspecting the lower confidence limit β_L (P3), it is greater than one only twelve (12) times and in only one case (computer, in-house, R1, data set No. 3) was the C_M^2

TABLE 4.1

Notation Used in Computer Program

Model	Computer Symbol			
	P1	P2	P3	P4
Duane $Y(t) = K^\beta t^{1-\beta}$	$\hat{\beta}$	\hat{K}	β_L	C_M^2
IBM $V(t) = \lambda t + K_1 (1 - e^{-K_2 t})$	$\hat{\lambda}$	\hat{K}_1	\hat{K}_2	
Exponential $Y(t) = K (1 - K_1 e^{-K_2 t})$	\hat{K}	\hat{K}_1	\hat{K}_2	
Lloyd-Lipow $Y(t) = K - K_2/t$	\hat{K}	\hat{K}_2		
Aroef $Y(t) = K e^{-K_2/t}$	\hat{K}	\hat{K}_2		
Simple Exponential $Y(t) = K e^{-K_2 t}$	\hat{K}	\hat{K}_2		

value significant at less than the 0.010 level. Here $C_M^2 = 0.384$, which is significant i.e., the Duane model does not fit at the $\alpha < 0.01$ level. All this is not to say that the Duane model is always a perfect fit for ground based gear for after all β , β_L and C_M^2 are measures of whether the Duane model fits. The Measures \bar{R} and R.E. estimate how well the model fits. Inspecting these columns in Table 4.3 shows that the Duane model is quite good with respect to \bar{R} , i.e., in about one-half the cases $\bar{R} \leq 25\%$. It is also relatively good with respect to R.E. Actually, for the large number of data sets involved the Duane model performs very well and this, in part, explains why the Duane model is so popular.

For the airborne data (Table 4.4) none of the data sets fail the $\beta_L > 1$ and C_M^2 significance test.

However, there are easily identifiable cases where the Duane model does not do well. First, consider the Infrared (I.R.) systems. In-house three of the four β 's exceed one; moreover all four of the \bar{R} 's exceed 30% although RE is not bad. Of the twenty-six field I.R.'s nine β 's exceeded one. Moreover, the \bar{R} 's are uniformly large; the smallest being in excess of 30%. Similarly the Duane model is a mediocre to

TABLE 4.2

Critical Values of C_M^2

n-1	Level of Significance				
	0.20	0.15	0.10	0.05	0.01
2	0.138	0.149	0.162	0.175	0.186
3	0.121	0.135	0.154	0.184	0.231
4	0.121	0.136	0.155	0.191	0.279
5	0.121	0.137	0.160	0.199	0.295
6	0.123	0.139	0.162	0.204	0.307
7	0.124	0.140	0.165	0.208	0.316
8	0.124	0.141	0.165	0.210	0.319
9	0.125	0.142	0.167	0.212	0.323
10	0.125	0.142	0.167	0.212	0.324
15	0.126	0.144	0.169	0.215	0.327
20	0.128	0.146	0.172	0.217	0.333
30	0.128	0.146	0.172	0.218	0.333
60	0.128	0.147	0.173	0.220	0.333
100	0.129	0.147	0.173	0.220	0.336

poor description for all laser systems and also the I. R. receiver. On the other hand the Duane model performs excellently for all radar data.

More detailed comparisons and conclusions are given in Section 5.0. We close this section with an example.

Example: As an example consider data set number 1, Ground Based, Computer, Field, R1. The \bar{R} and R.E. are very low (12.15% and 0.094 respectively). The maximum likelihood estimates were $\hat{K} = 56.92$ and $\hat{\beta} = 0.6644$. Thus $1 - \hat{\beta} =$ growth rate = 0.3356. The calculated cumulative MTBF, i.e., $\hat{Y}(t)$, is given by

$$\hat{Y}(t) = (56.92)^{0.6644} t^{0.3356}$$

and is plotted in Figure 4.1a as a function of time along with the observed cumulative MTBF. Figure 4.1b gives the same graph in terms of $\ln Y(t)$. It should be noticed that neither of the graphs appears to be a least squares fit. This is because $\hat{\beta}$ and \hat{K} are not the least squares estimates but the more efficient maximum likelihood estimates. A commonly occurring phenomenon is also visible in this data set: the "peak" (at the second and third failures) and the "valley" (at the fourth value). Had K and β been estimated as the first few failures became available undoubtedly $\hat{\beta} > 1$ ("negative" growth) would have been experienced. Early failure data must be carefully screened to determine that the actual failure times are indeed recorded and that the system is operating and being monitored correctly.

4.1.2 Results for the IBM model. This model and all the subsequent models have not been studied as intensely as the Duane model in the literature. Hence the measures of whether and how well the model fits have been combined into the \bar{R} and R.E. quantities.

The IBM model shows some remarkable results. It is clearly not very good (in fact bad) for ground based radars (in-house and field) and microwave systems/equipment (in-house and field). However, with very minor isolated exceptions the IBM model fits excellently for communications (in-house and field) systems/equipment, quite well for displays and moderately well for computers and antennas.

For the airborne based systems/equipment the performance of the IBM model would be bad to mediocre except for radars for which the performance is good.

The following example, chosen to be a good fit, illustrates the power of the IBM to give information about the growth process.

Example: Data set No. 4, Airborne, Antenna, In-house, R2.

It will be recalled that in the IBM model the dependent variable was $V(t) =$ the expected number of failures in time t ; specifically

$$V(t) = \lambda t + K_1(1 - e^{-K_2 t}).$$

FIGURE 4.1a

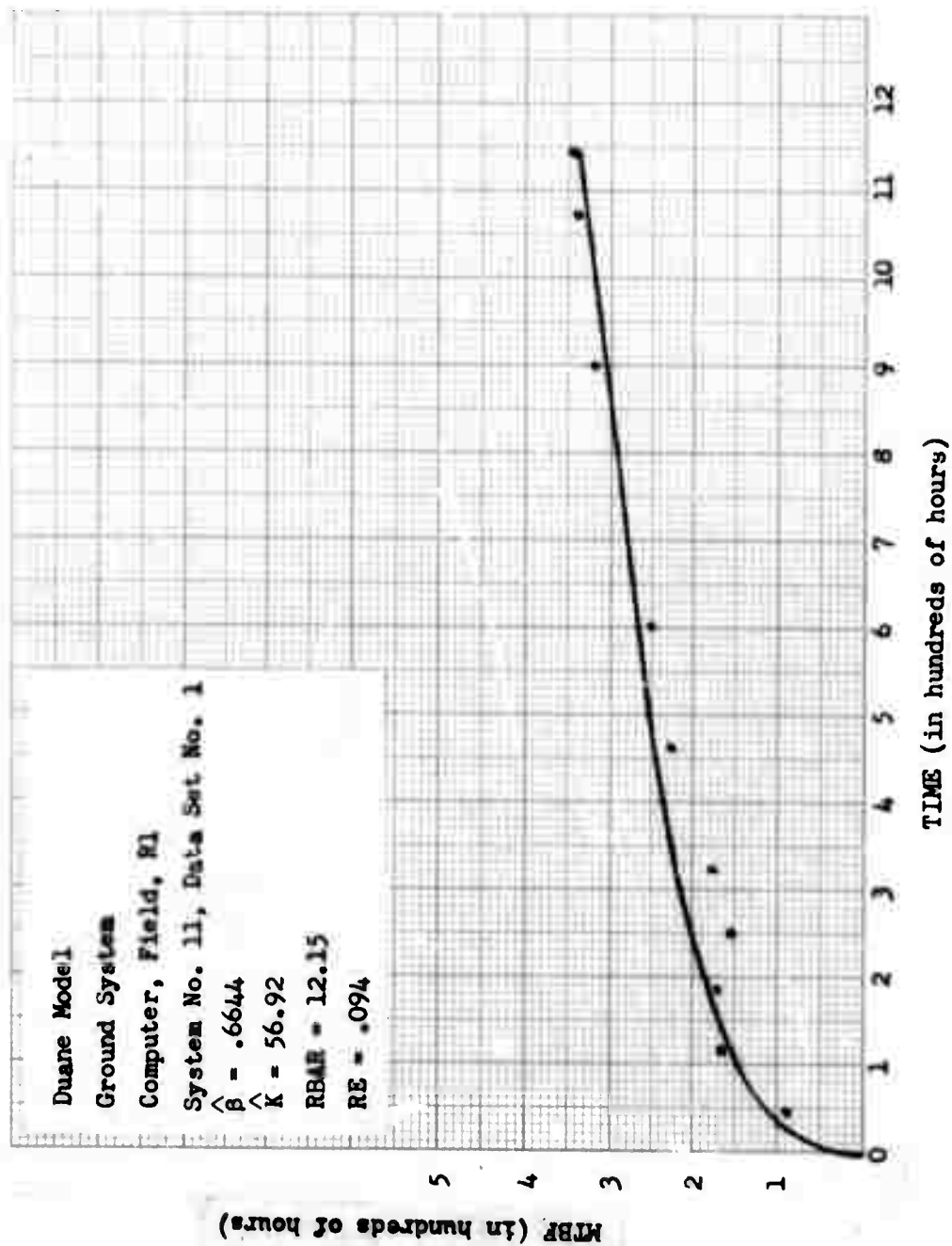
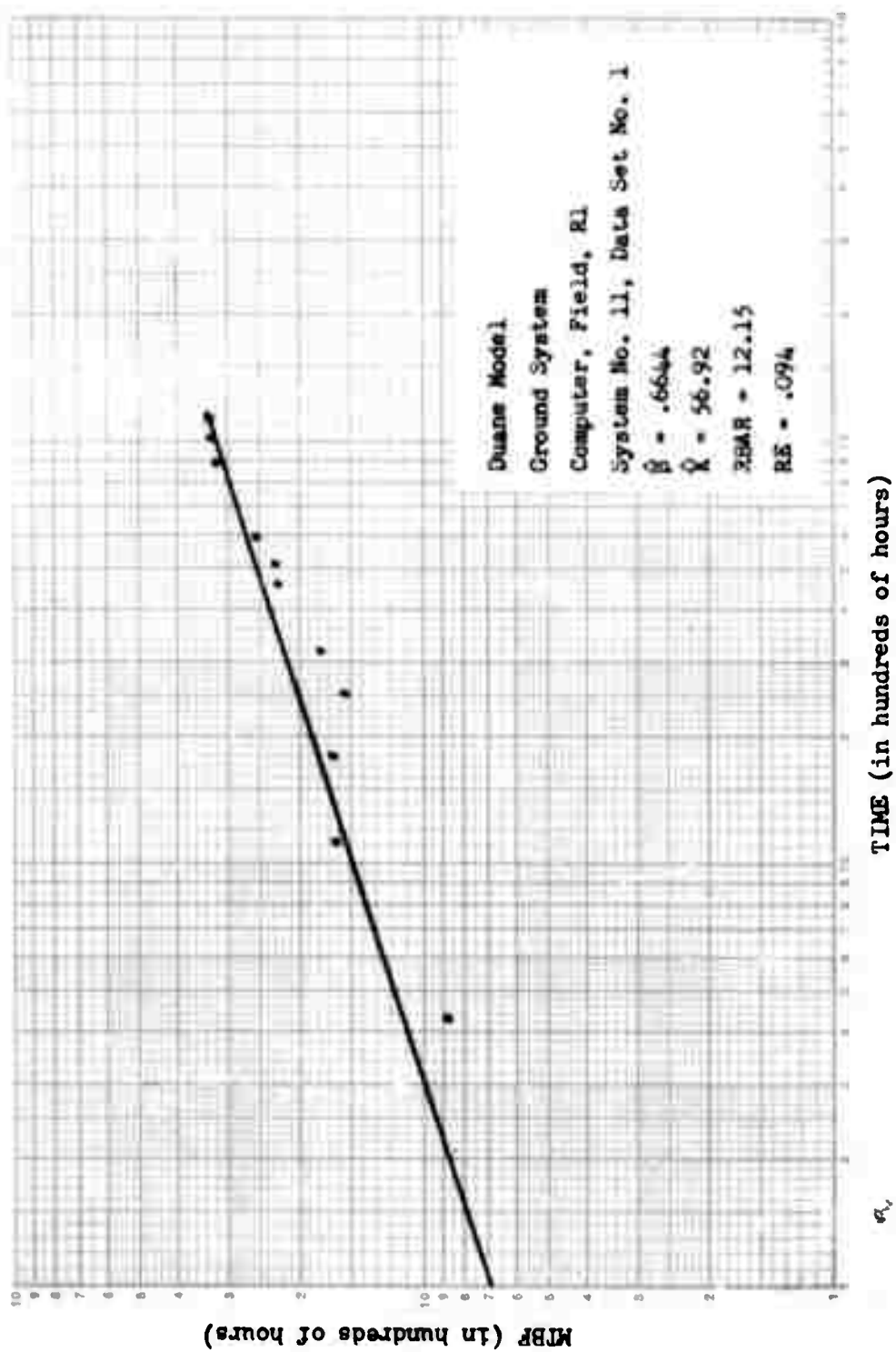


FIGURE 4.1b



In Figure 4.2 we have graphed calculated cumulative MTBF (namely $t/\hat{V}(t)$) along with the observed cumulative MTBF. Of course

$$\hat{V}(t) = \hat{\lambda}t + \hat{K}_1(1 - e^{-\hat{K}_2 t}).$$

For this data set $\hat{\lambda} = 0.01037$, $\hat{K}_1 = 11.17$ and $\hat{K}_2 = 0.007259$. \bar{R} and R.E. were very low (4.23% and 0.011 respectively). We can see the utility of the model as follows. First we should note that the total test time was 1,000 hrs and 21 failures were observed. Now $\hat{\lambda}$ is an estimate of the constant (random) failure rate and hence the MTBF for purely random failures is about $(0.01037)^{-1} \approx 100$ hrs. Thus in 1,000 hrs we should see about 10 random failures. The term $\hat{K}_1 = 11.17$ is an estimate of the number of non-random failures in the antenna at the beginning of testing. Thus, roughly, if all the non-random failures have been removed, we have: 10 (random) + 11 (non-random) = 21, the number of failures observed.

We can check this reasoning easily. Let us calculate the fraction of non-random failures removed by $t = 1,000$ hrs (the total test time). We must use equation (3.12) of Section 3.2. Since

$$t_q = \frac{-\ln(1-q)}{\hat{K}_2}$$

we can solve for q as follows:

$$-\ln(1-q) = \hat{K}_2 t_q \Rightarrow q = 1 - e^{-\hat{K}_2 t_q}.$$

Thus,

$$q = 1 - e^{-7.259} = 0.9993.$$

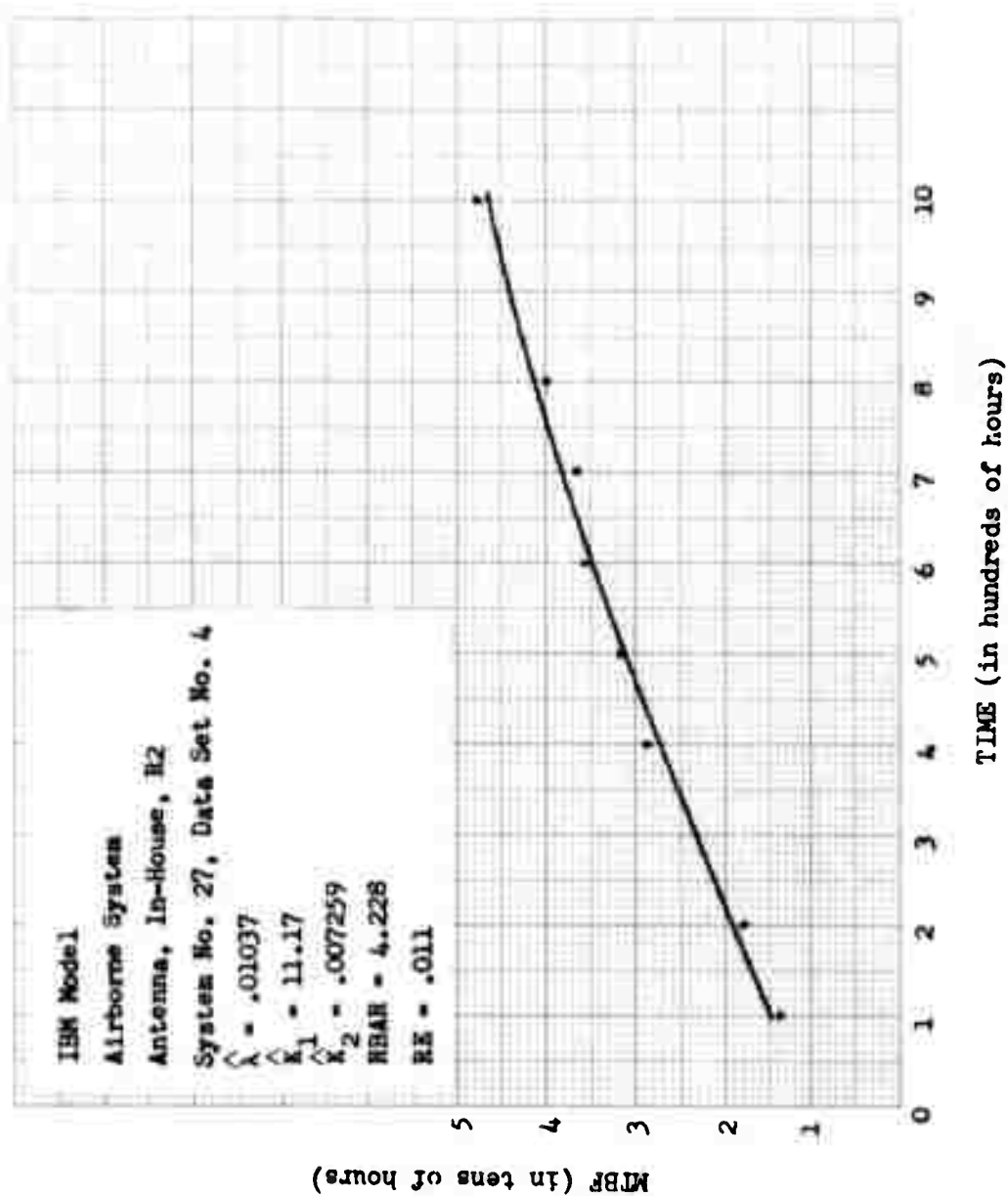
The estimate of the fraction of the non-random failures removed by time $t = 1,000$ hr is then 0.9993. If we had been content to stop testing when 0.90 of the non-random failures were removed we would have stopped at:

$$t_{0.90} = \frac{-\ln(0.10)}{\hat{K}_2} = \frac{-(-2.30)}{0.007259} \approx 317 \text{ hr.}$$

Thus the reliability program "debugged" the antenna quite nicely.

4.1.3 Results for the exponential-single term power series. This model is called simply the exponential model in the computer printouts i.e., Tables 4.3 and 4.4.

FIGURE 4.2



The results for this model on the ground based data indicate that it does well enough on displays and microwave systems/equipment and from mediocre to poor on the balance of the systems/equipments.

The results for the airborne data are quite different. The exponential-single term power series model is an excellent fit for virtually all airborne data with \hat{R} 's below 10% and between 10 and 20% not only common but occurring the majority of the time. The following example illustrates the use and interpretation of the model.

Example: Data set No. 4, Airborne, Antenna, In-house, R2. Again, by choice, the fit is very good and the model is given by

$$\text{Cumulative MTBF} = Y(t) = K (1 - \hat{K}_1 e^{-\hat{K}_2 t}),$$

hence the fitted curve is

$$\hat{Y}(t) = \hat{K} (1 - \hat{K}_1 e^{-\hat{K}_2 t})$$

where

$$\hat{K} = 193.1, \hat{K}_1 = 0.9409 \text{ and } \hat{K}_2 = 0.000219.$$

$\hat{Y}(t)$ is graphed in Figure 4.3 along with the observed values. As mentioned in Section 3.3 the parameter K represents the limiting ($t \rightarrow \infty$) cumulative MTBF which in this case is estimated to be 193.1 hr. Also, the initial MTBF is about $\hat{K} (1 - \hat{K}_1) = 193.1 (0.06) = 11.59$.

4.1.4 Results for the Lloyd-Lipow model. Since (see Section 3.4) K is the limiting value of MTBF only positive values of \hat{K} (P1) make sense no matter how small \hat{R} and/or R. E. may be. For the ground based data this (negative \hat{K}) occurred only eight times. There are no obvious patterns for the ground based data and this model seems to fit mediocre to good for most of the systems/equipments. For the airborne data this model behaves about the same as the ground data except it definitely does not fit laser data well at all.

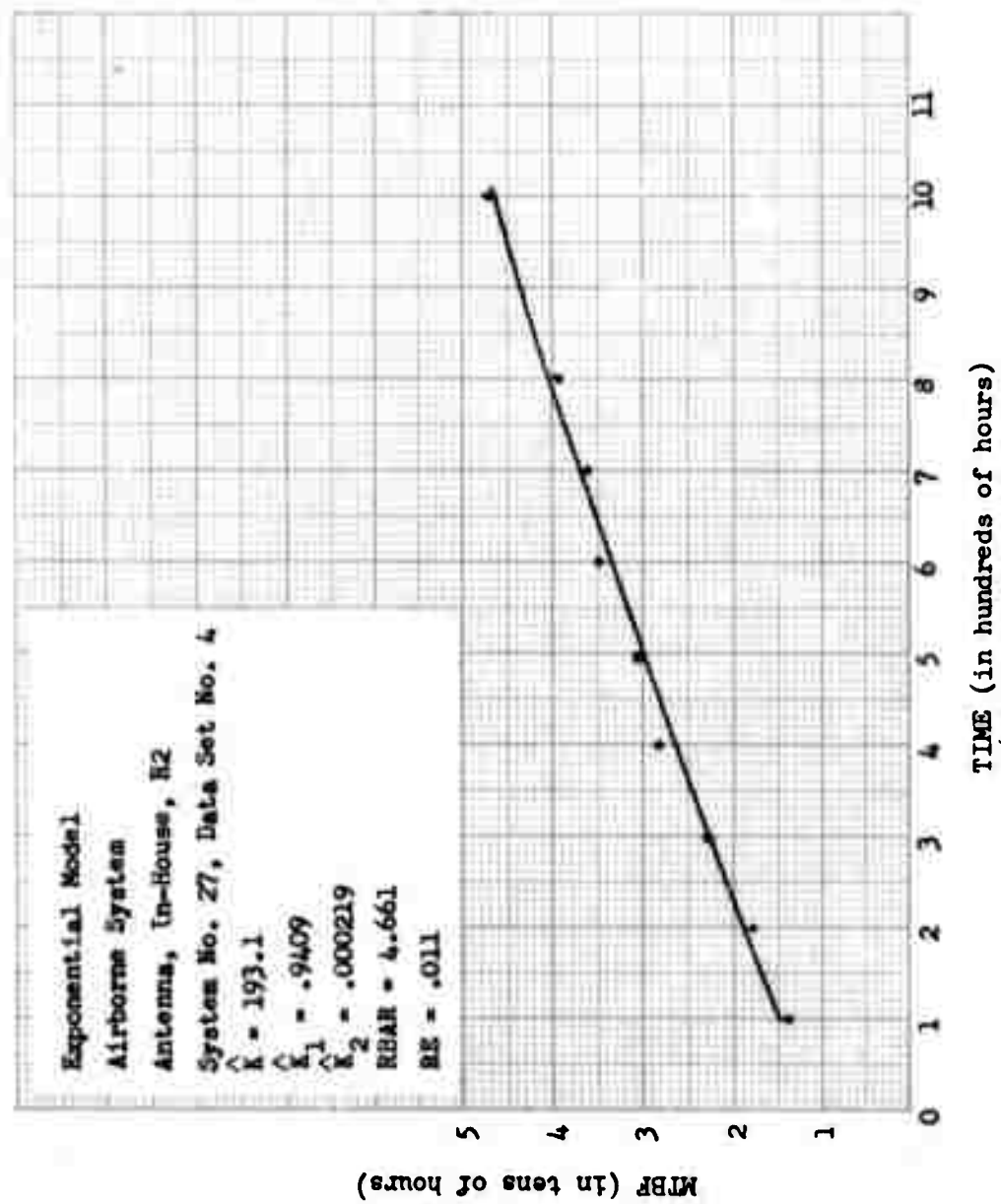
The following example, chosen from the good fits illustrates the interpretation of this model.

Example: Data set No. 5, Ground, Antenna, Field, R1.

This model is

$$\text{Cumulative MTBF} = Y(t) = K - K_2/t$$

FIGURE 4.3



and hence

$$\hat{Y}(t) = \hat{K} - \hat{K}_2/t.$$

For this data set $\bar{R} = 5.382\%$ and R.E. = 0.038 which indicates a very good fit. $\hat{K} = 183.9$ which is an estimate of the limiting MTBF. $\hat{K}_2/\hat{K} = 2993/183.9 \approx 16$ hrs. is an estimate of the right end point (the left end point is zero) of the interval of time over which no testing took place. Mathematically this is expressed by $Y(t) = 0$. The graph of the estimated function along with the observed values is given in Figure 4.4.

4.1.5 Results for the Aroef model. With respect to ground systems/equipments the Aroef model appears to fit, moderately well, all various data classes. For the airborne data the situation is much the same, perhaps even better although the model does not behave well for some laser equipments.

The following example was, as usual, chosen intentionally because it is a reasonably good fit.

Example: Data set No. 5, Ground, Radar, In-house, R3.

As indicated in Section 3.5 the Aroef model is

$$\text{Cumulative MTBF} = Y(t) = K e^{-K_2/t}$$

and hence the estimated model is

$$\hat{Y}(t) = \hat{K} e^{-\hat{K}_2/t}.$$

For this data set $\hat{K} = 491$ (the limiting cumulative MTBF) and the growth rate parameter $\hat{K}_2 = 182.1$. For this data $\hat{K} = 491$ may be a little low having been "pulled down" by the last point (as can be seen in Figure 4.5). The fit is very good however since $\bar{R} = 7.842$ and R. E. = 0.223 are low.

4.1.6 Results for the simple exponential model. This model was used arbitrarily to see if even models not physically correct (but with the appropriate mathematical properties) might fit the various data sets. The model is

$$\text{Cumulative MTBF} = Y(t) = K e^{K_2 t} \quad K > 0$$

and hence the fitted curve is

$$\hat{Y}(t) = \hat{K} e^{\hat{K}_2 t}.$$

FIGURE 4.4

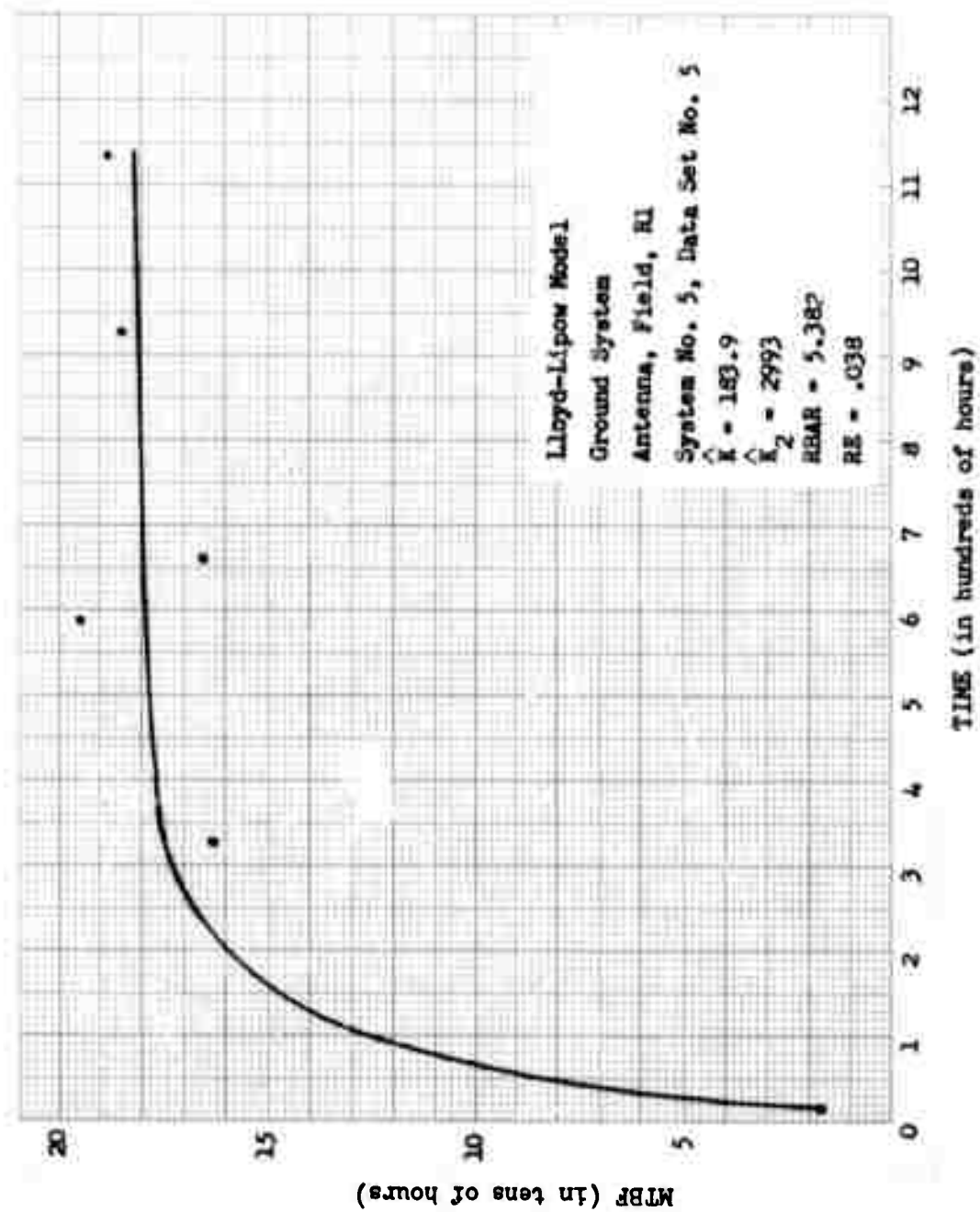
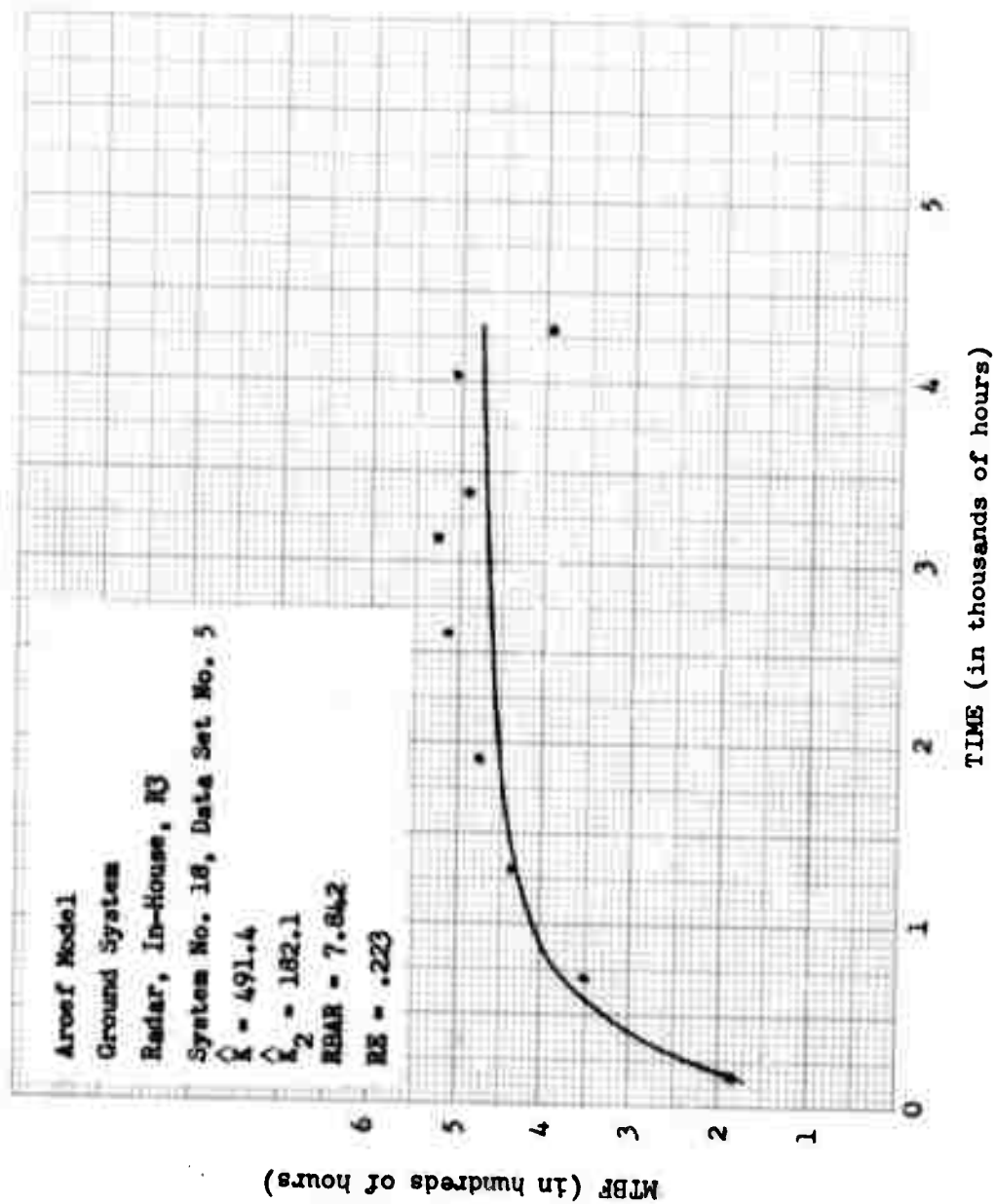


FIGURE 4.4.5



Since

$$\lim_{t \rightarrow \infty} Y(t) = \infty \text{ if } K_2 > 0$$

and

$$\lim_{t \rightarrow \infty} Y(t) = 0 \text{ if } K_2 < 0$$

the model is nonsense physically because a cumulative MTBF of either zero or infinity is absurd; however $Y(t)$ is monotone increasing in t and it is entirely possible for relatively short times (relative to $t \rightarrow \infty$) the model might fit well.

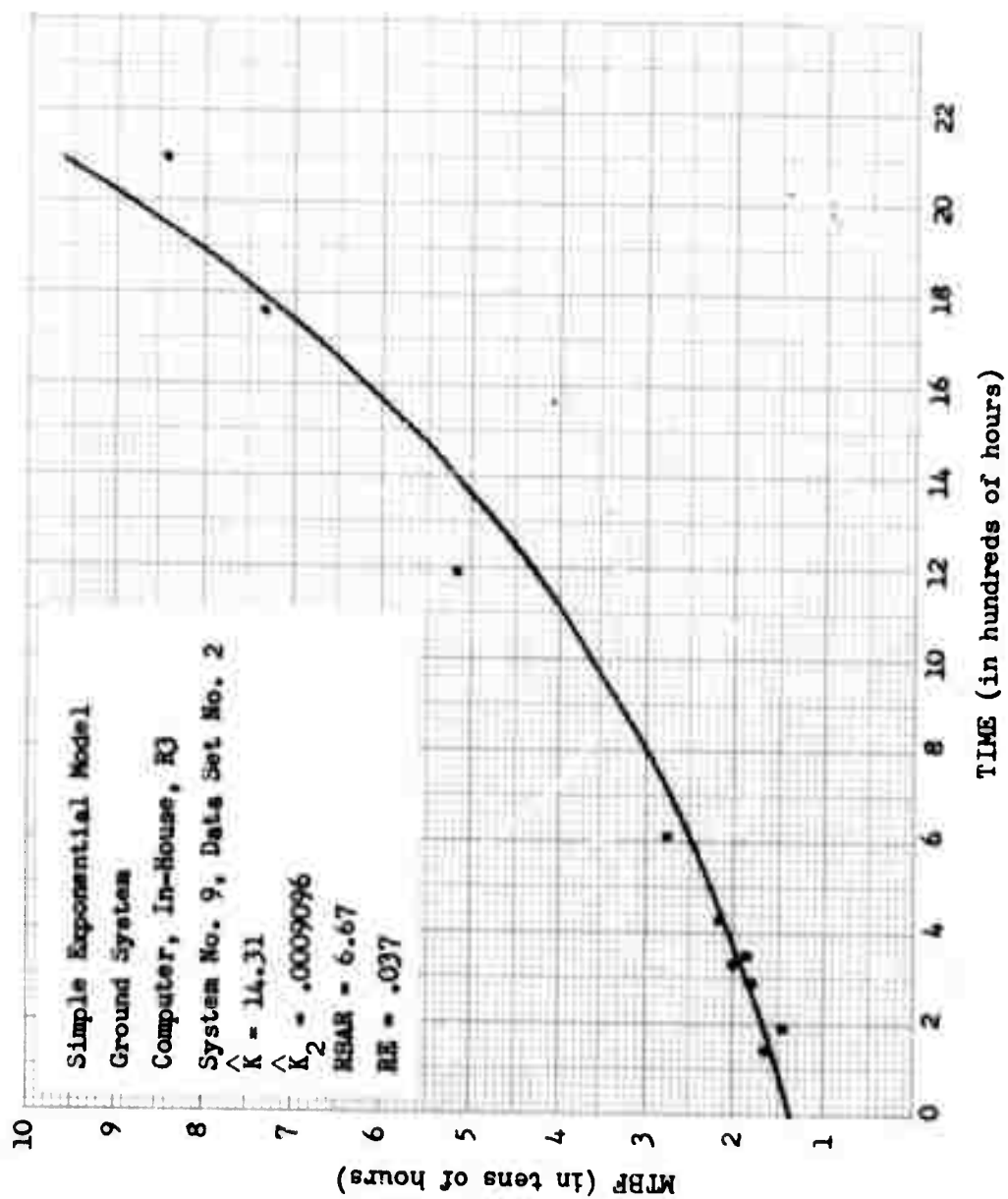
Inspecting Table 4.3 (ground-based data) it is clear that this model fits all the data quite well. For the airborne data in Table 4.4 the model also fits quite well except possibly for laser systems/equipment. Thus even though in the limit as $t \rightarrow \infty$ the model is absurd, it fits well for the relatively short times in the data.

The following is an example of the model when it fits well.

Example: Data set No. 2, Ground, Computer, In-house, R3.

For this data set $\hat{K} = 14.31$ and $\hat{K}_2 = 0.0009096$. The \bar{R} and R.E., as can be seen from Figure 4.6 are very low. Also Figure 4.6 indicates that while the fit is good for the data observed, it cannot continue since the $\hat{Y}(t)$ is growing exponentially.

FIGURE 4.6



SECTION 5.0 - COMPARISONS BETWEEN MODELS AND DATA CLASS FACTORS

Before beginning the model comparisons over the various factors defining the data classes we give in Section 5.1 some general results concerning how well the models relate to each other using the \bar{R} and R. E. statistics as the criteria of goodness of fit.

5.1 General Comparisons Between Models

A computer run was made to determine, for each data set, which model resulted in the smallest value of \bar{R} and which model resulted in the smallest value of R. E. These results, along with the smallest values themselves, are given in Table 5.2 starting on page 198. A summary of Table 5.2 is given in Table 5.1a and Table 5.1b.

In Table 5.1a we see that the best model overall was the Simple Exponential. Also, the IBM, Exponential and Aroef models were frequently best. All the numbers presented in Table 5.1a must be viewed with several important "disclaimers." Before discussing these it should be noted that the median has been used for \bar{R} as the measure of central tendency to eliminate the misleading upward bias of the arithmetic mean due to a few isolated excessively large values. Similarly the geometric mean has been used for R. E. because each R. E. represents a ratio and the arithmetic mean has a misleading upward bias.

Definitions: Let \bar{R}_i and R. E._i represent the individual values of a total of m in a particular category, i.e., $i = 1, \dots, m$.

For m odd

Median \equiv the $[(m+1)/2]^{\text{th}}$ largest value, i.e. the median is $\bar{R}_{\frac{m+1}{2}}$ when the \bar{R}_i have been ranked from smallest to largest.

For m even

Median $\equiv \left(\frac{\bar{R}_{\frac{m}{2}} + \bar{R}_{\frac{m+2}{2}}}{2} \right)$ i.e., the median is the arithmetic mean of the two "middle" values when the \bar{R}_i have been ranked from smallest to largest.

Geometric mean $\equiv \left[\prod_{i=1}^M \text{R. E.}_i \right]^{1/m}$

The numbers given in Table 5.1a are "overall" numbers and tend to mask airborne versus ground and in-house versus field differences. In fact, it is clear from Table 5.1a that all the models fit reasonably well on the average. It should be noted that while the IBM model, with the exception of the simple exponential model, was most frequently best it was the highest with respect to both "average" \bar{R} and R. E. These points suggest that the results should be looked at in lower levels of classification and we do this in the next section.

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Median $\equiv \left(\frac{\bar{R}_{\frac{m}{2}} + \bar{R}_{\frac{m+2}{2}}}{2} \right)$ i. e., the median is the arithmetic mean of the two "middle" values when the \bar{R}_i have been ranked from smallest to largest.

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TABLE 5. 1a

Analysis of Frequency of Best Fits and Goodness of Fit by Model

Model	\bar{R}			R. E.		
	No.	%	Median	No.	%	Mean*
Duane	13	4.8	26.92	22	8.2	0.96
IBM	53	19.6	26.85	27	10.0	1.10
Exponential	45	16.7	21.45	53	19.6	0.93
Lloyd-Lipow	9	3.3	21.15	29	10.7	0.58
Aroef	46	17.0	19.21	31	11.5	0.54
Simple Exponential	104	38.6	13.39	108	40.0	0.32
Totals	270	100	21.30	270	100	0.68

TABLE 5. 1b

Total Goodness of Fit Analysis for Airborne/Ground and In-House/Field Classifications

	Ground		Airborne		In-house		Field	
	\bar{R}	R. E.	\bar{R}	R. E.	\bar{R}	R. E.	\bar{R}	R. E.
Duane	25.46	0.94	31.63	1.01	26.57	0.61	27.05	1.25
IBM	27.42	1.57	20.10	0.43	28.15	0.65	26.27	1.55
Exponential	31.84	1.88	10.97	0.09	15.42	0.31	31.29	1.66
Lloyd-Lipow	21.15	0.65	20.96	0.46	27.31	0.60	20.17	0.57
Aroef	19.55	0.63	18.64	0.39	22.81	0.58	18.52	0.52
Simple Exponential	13.60	0.35	12.91	0.26	15.46	0.28	12.89	0.34
Totals*	23.30	0.86	19.37	0.35	24.69	0.48	23.22	0.83

*Median for \bar{R} ; geometric means for R. E.

5.2 Airborne/Ground and In-House/Field Comparisons by Model

Some interesting conclusions can be obtained from Table 5.1b.

In Table 5.1b, by inspecting the totals, it is clear that airborne systems/equipment growth data is better fitted, on the average than the ground based data. This may well be due to the generally more severe missions for airborne systems and hence more aggressive testing and monitoring throughout the life-cycle. While there is little difference with respect to the \bar{R} for in-house versus field, the in-house R. E. is significantly better. This is probably due to the more careful testing and monitoring that is accomplished in-house and this result is entirely expected.

Regarding the models themselves, four points are worth noting.

- i) The Duane model does not behave all that well for airborne data.
- ii) The exponential model is much superior for airborne data than it is for ground and it is superior for in-house as against field data.
- iii) The IBM model does its' best, by far, for airborne data.
- iv) The simple exponential model is uniformly good (for a limited time span).

In the next section we investigate the class differences even further.

5.3 Joint Airborne/Ground/In-House/Field Comparisons by Model

The results of this analysis are given in Table 5.3. This table gives a better look at data class differences, if any. The following conclusions are evident.

- i) The Duane model cannot be recommended for airborne field data.
- ii) Conversely, the IBM model is excellent, at its' best, for airborne field data.
- iii) The exponential model is excellent for all airborne data, but is best for airborne field data.
- iv) The Lloyd-Lipow and Aroef models do quite well for airborne-field data.
- v) The simple exponential model is good everywhere although the exponential model is clearly better for all airborne systems/equipments.

In the next section we look at the models in terms of equipment categories.

5.4 Comparisons of Models by Equipment Categories

The results are given in Table 5.4 and lead to the following conclusions.

- i) For antennas all the models except the Duane model are quite good.

TABLE 5.3
Joint Goodness of Fit Analysis for Airborne/Ground and
In-House/Field Classifications

	Ground				Airborne			
	In-House		Field		In-House		Field	
	\bar{R}	R. E.	\bar{R}	R. E.	\bar{R}	R. E.	\bar{R}	R. E.
Duane	28.64	0.73	24.38	1.01	25.44	0.54	67.88	4.1373
IBM	28.43	1.15	26.85	1.73	23.96	0.42	13.66	0.51
Exponential	24.41	1.21	32.05	2.11	11.41	0.10	7.38	0.07
Lloyd-Lipow	25.32	0.64	20.65	0.66	28.42	0.58	11.79	0.27
Aroef	22.30	0.62	19.21	0.63	23.70	0.55	10.57	0.18
Simple Exponential	16.95	0.36	13.08	0.35	13.76	0.24	12.20	0.31

- ii) For radar and microwave systems/equipment the Duane model and the simple exponential model are very good.
- iii) For display, computer, and communications equipment the Lloyd-Lipow, Aroef and simple exponential models are good.
- iv) For infrared systems equipment all models but the Duane model are excellent.
- v) For all laser systems/equipments the exponential is vastly superior to all other models.
- vi) For the visual scan equipment the exponential model is again superior to the remaining models.

5.5 Reliability Gain Analysis

In this section we discuss reliability gain in terms of the various factors that define the data classes. Roughly speaking, for a given data set, the reliability gain is defined as the ratio of the final cumulative MTBF to the initial cumulative MTBF. For computing the reliability gain we will use the Duane model since: (1) it virtually always fits the data, and (2) it provides a convenient means of computing initial MTBF. We will use two measures of reliability gain defined as follows.

CLASSIFICATION

DO NOT TYPE BEYOND SOLID LINES

SAMPLE SHEET FOR PREPARATION OF RADC TECHNICAL REPORTS

TYPE _____
 PROJ _____
 CORR _____
 CKD _____

TABLE 5.4
Model Comparisons by Equipment Categories

	Duane	IBM	Exponential	Lloyd	Aroef	Simple Exponential	
Antenna	35.9850 1.0482	16.7530 0.7259	23.0410 0.5796	22.3320 0.5841	21.5580 0.5548	16.2990 0.4177	\bar{R} R.E.
Radar	20.0280 0.4015	50.1790 1.7720	72.3920 6.2718	26.6380 0.6765	22.6870 0.6580	12.3960 0.3157	\bar{R} R.E.
Microwave	19.0350 0.7838	25.4430 0.9908	15.4510 0.6356	20.2110 0.7973	18.7690 0.8172	11.6750 0.3025	\bar{R} R.E.
Display	28.4680 1.1747	24.8820 0.7968	33.6450 1.1845	22.2150 0.5284	18.6920 0.4772	12.0720 0.2424	\bar{R} R.E.
Computer	28.5570 1.1587	46.8850 2.8860	44.9850 2.9100	19.0615 0.6077	17.0070 0.5948	11.7310 0.3171	\bar{R} R.E.
Communications	30.7875 2.4698	19.5005 0.8457	30.8080 0.9524	21.8400 0.6223	20.5840 0.6389	16.0990 0.6372	\bar{R} R.E.
System-Radar	14.5100 0.1688	26.7090 1.3847	189.3860 8.1803	33.2090 0.7514	27.7325 0.7769	12.1090 0.1978	\bar{R} R.E.
System-Microwave	19.3220 0.9852	19.1505 0.7591	16.0805 0.7144	20.2900 0.9157	19.1680 0.9182	11.3010 0.3717	\bar{R} R.E.
System-Laser	19.3820 0.0710	219.9044 2.3913	8.2890 0.0189	80.0380 0.7265	48.1175 0.7111	30.7790 0.2242	\bar{R} R.E.
System-Infrared	65.9675 4.2379	14.2100 0.5450	11.6100 0.1148	12.3915 0.3028	11.5110 0.2184	12.5170 0.3516	\bar{R} R.E.

TABLE 5.4
Model Comparisons by Equipment Categories (Continued)

	Duane Model	IBM Model	Exponential Model	Lloyd Lipow	Aroef Model	Simple Exponential	
System- Visual Scan	13.4620 0.2909	44.3915 1.6316	8.7840 0.1942	23.8460 0.6400	19.6965 0.5550	18.2945 0.3932	\bar{R} R.E.
Laser Transmitter	33.6590 0.2355	138.9970 0.6332	15.6250 0.0243	42.9715 0.3465	28.8185 0.2770	31.0705 0.3234	\bar{R} R.F.
Laser Receiver	51.2480 0.3118	126.7180 0.9517	12.0280 0.0394	52.5700 0.6944	32.5030 0.6587	31.7310 0.2164	\bar{R} R.E.
Laser Xmtr/ Rcvr	25.2970 0.1163	158.5719 0.9805	11.4100 0.0293	66.1775 0.6072	42.6435 0.5273	36.0765 0.3072	\bar{R} R.E.
Infrared Receiver	41.4885 0.9573	16.1805 0.3365	22.4500 0.0816	21.4965 0.5767	16.2760 0.5047	19.4350 0.6174	\bar{R} R.E.

$$RG_1 = \frac{\text{observed final cumulative MTBF}}{\text{calculated initial cumulative MTBF}}$$

$$RG_2 = \frac{\text{calculated final cumulative MTBF}}{\text{calculated initial cumulative MTBF}}$$

In RG_1 one would ordinarily expect to find the observed initial cumulative MTBF in the denominator. However, determining how many failures should be included in calculating "initial" cumulative MTBF is very arbitrary, particularly for data sets with small numbers of failures. To avoid possible serious bias in the results we have used the definitions given above.

It has already been shown (Section 3.1) that for the Duane model the mean time to first failure is

$$\text{Initial cumulative MTBF} = K \Gamma(1/\hat{\beta} + 1)$$

where $\Gamma(u)$ is the usual gamma function of u . The maximum likelihood estimate is thus given by $K \Gamma(1/\hat{\beta} + 1)$. Thus $RG_1 = (t^*/n) / K \Gamma(1/\hat{\beta} + 1)$,

where t^* is the total length of test and n is the number of failures in the data set, and $RG_2 = \hat{K} \hat{\beta} t^* (1 - \hat{\beta}) / K \Gamma(1/\hat{\beta} + 1)$.

In RG_2 the numerator is the calculated final cumulative MTBF.

In calculating "average" values for RG_1 and RG_2 we have used, since the RG 's are ratios, geometric means. These are denoted GM_1 (for RG_1) and GM_2 (for RG_2).

$$\text{For calculation, } GM_i = \left(\prod_{j=1}^m RG_{ij} \right)^{1/m}, \quad i = 1, 2 \quad j = 1, \dots, m.$$

where m is the number of RG_i 's to be averaged (the average is over all sets in a category).

5.5.1 Analysis of Reliability Gain for Reliability Categories and Ground Versus Airborne Based Systems/Equipments. The results, i.e., the geometric means, are given in Table 5.5. First it should be noticed that the "observed" gains (GM_1) and the calculated gains move together quite nicely. Generally, the least gain is achieved by spending no dollars (R1) although it should be noted that while no reliability money was spent, per se, failures that did occur were recorded and corrective action taken under engineering auspices. The explanation for why the growth was larger for moderate reliability expenditures (R2) than it was for larger expenditures (R3) is two-fold.

- 1) The larger expenditures concentrated more funds in the design phase (as against testing) and the system/equipment was probably better (less design/workmanship faults) when testing started so there was less gain to be had to achieve the limiting cumulative MTBF. This conclusion was based on the general observation of a number of the individual data sets.

TABLE 5.5
Average* Reliability Gains for Reliability Categories and
Airborne and Ground Based Data

	Ground		Airborne	
	GM ₁	GM ₂	GM ₁	GM ₂
R1	3.88	5.42	3.09	5.03
R2	5.79	9.98	5.17	7.65
R3	4.02	7.10	2.17	3.57

*Geometric means.

- ii) Some data sets barely fell into R2 or R3, i.e., were borderline in the classes. Since the bounds in the classes were arbitrarily selected, the differences in the reliability expenditures in terms of reliability gain are hard to detect.

Whether we deal with GM₁ or GM₂ it is apparent that the reliability gain is larger for ground based systems/equipment than for airborne systems/equipment irrespective of whether the reliability class is R1, R2, or R3. We checked the airborne data fairly carefully and found that generally the airborne systems/equipment undergo more environmental and screening type tests at all levels (card through system) than ground-based systems/equipments. Thus the data we have collected includes some, but not all (e.g. card level) screening/environmental tests. Hence, when the airborne systems/equipment reach developmental testing, they are better (higher initial cumulative MTBF) than the ground-based systems/equipments, and thus less reliability gain is present to be achieved by developmental testing.

The absolute magnitude of the numbers in Table 5.5 are of interest in and of themselves. Personally, we are somewhat surprised they are as large as they are. Gains of 5 to 1 and more occur in seven of the twelve cases. Actually they are somewhat small in terms of what some people claim. For example, R.P.M. (the General Electric Co. version of the Duane model) claims a 10 to 1 increase where the limiting cumulative MTBF is taken as the predicted value, and the prediction is made according to MIL Handbook 217B. We did however, experience a 10 to 1 ratio (R2, ground).

5.5.2 Analysis of Reliability Gain for In-House and Field Data. Table 5.6 gives the geometric means for the in-house and field data sets. The results are entirely believable. Even though the 9.76 result is high (caused by a particular gain present in a limited number of data sets on the ground data) it is clear there is more reliability gain achieved by developmental testing than by field use. This is because most of the design, workmanship, and other non-random failures have been removed before the system enters the field. Thus, developmental testing is doing its' job.

TABLE 5.6
Average* Reliability Gain, In-House and Field

	GM ₁	GM ₂
In-House	5.64	9.76
Field	2.45	4.68

*Geometric mean.

5.5.3 Analysis of Reliability Gain by System/Equipment Category. Tables 5.7 (ground) and 5.8 (airborne) actually present the "average" reliability gains. We have intentionally not averaged the data over reliability categories, in-house versus field or airborne versus ground so as not to obscure equipment/system differences which might be caused by small data sets and/or unusually large reliability gains.

Several very logical results can be seen from the tables. A case in point is the ground based communications equipment in Table 5.7. It shows very modest reliability growth and this phenomenon is probably due to the fact that communications technology is among the oldest and many design problems have long since been solved. Thus the payoff in developmental testing for communications equipment is not large.

Generally, computers and displays exhibit moderate reliability growth which is probably a manifestation of the fact that computers and displays represent a relatively mature technology.

Radars, which are a constantly changing technology reflected in complex designs, generally experienced moderate to large gain.

Microwaves and antennas exhibit generally moderate to large gain.

Actually, except for communications equipment there are very small differences in the gain among the remaining categories.

By referring to Table 2.5 of Section 2, we can see that some of the large gains are due to paucity of data. For example in Table 5.8 the infrared receiver, in-house, R2, the gain is determined from only one data set.

5.6 Parametric Analysis for the Duane Model

In this section, because of the overwhelming popularity of the Duane model, we give a brief parametric analysis in terms of the slope of the growth line. Here the "line" is in terms of the \ln cumulative MTBF versus \ln time. In Section 3.1 it is pointed out that this slope is given by $1 - \beta$. Of course we do not have β , but we do have an estimate of β , namely $\hat{\beta}$. The results are given in Table 5.9 which provides ground versus airborne and in-house versus field comparisons. The only significant fact is that the in-house growth rate is significantly larger than the field

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TABLE 5.7
Reliability Gain, Ground Summary

Equipment		REL	GM1	GM2
Antenna	In-house	R3	2.431	5.455
Antenna	Field	R1	2.121	2.928
Radar	In-house	R3	2.328	3.719
Radar	Field	R1	3.771	5.261
Microwave	In-house	R1	1.129	2.174
Microwave	Field	R1	5.400	7.334
Display	In-house	R3	38.402	78.580
Display	In-house	R3	3.217	4.484
Display	Field	R1	5.512	9.329
Display	Field	R2	2.762	4.450
Display	Field	R3	2.363	3.723
Computer	In-house	R1	4.507	7.205
Computer	In-house	R2	1.781	2.212
Computer	In-house	R3	11.880	28.419
Computer	Field	R1	22.952	4.091
Computer	Field	R2	5.024	9.331
Communication	In-house	R3	1.464	1.727
Communication	Field	R1	1.507	1.852
System-Radar	In-house	R3	2.642	3.572
System-Radar	Field	R1	11.609	18.239
System-Microwave	In-house	R1	1.129	1.174
System-Microwave	Field	R1	5.335	7.187

TABLE 5.8
Reliability Gains, Airborne Summary

Equipment		REL	GM1	GM2
Antenna	In-house	R2	4.089	6.335
Radar	In-house	R2	13.993	23.341
Display	In-house	R2	2.153	2.837
Computer	In-house	R1	2.376	3.745
Computer	In-house	R2	1.424	1.715
Laser Transmitter	In-house	R1	2.119	3.704
Laser Transmitter	In-house	R3	3.403	6.142
Laser Receiver	In-house	R1	2.990	4.924
Laser Receiver	In-house	R3	3.183	8.207
Laser Xmtr/Rcvr	In-house	R1	3.941	6.601
Laser Xmtr/Rcvr	In-house	R3	7.477	15.057
Infrared Receiver	In-house	R2	25.096	48.205
System-Radar	In-house	R2	12.059	18.692
System-Laser	In-house	R1	9.423	17.675
System-Laser	In-house	R3	7.279	13.973
System-Visual Scan	In-house	R2	2.921	3.969
System-Infrared	In-house	R1	1.283	1.448
System-Infrared	Field	R3	1.344	1.934

TABLE 5.9
Growth Rates*, $1 - \hat{\beta}$, for the Duane Model

	Ground	Airborne	Totals
In-House	0.38	0.35	0.36
Field	0.29	0.28	0.28
Totals	0.31	0.33	0.32

*Means

growth rate and this is to be expected because of the closer monitoring and control in-house. It is also interesting to note that for in-house data the commonly "pitched" 0.50 growth rate was not seen here, although 0.36 is not all that far from it. The discrepancy is explained by the fact that, generally, R.P.M. and other monitoring techniques were not applied to the present data.

In Table 5.10, we can clearly see the effects of the expenditure of reliability dollars (as percentage of total contract dollars). For the R3 category, the largest (>1% of contract costs) expenditure class, the growth rate is 0.45 which closely approaches the commonly "heard" 0.50.

TABLE 5.10
Growth Rates*, $1 - \hat{\beta}$, for the Duane Model by Reliability Category

Reliability Category	R1	R2	R3
$1 - \hat{\beta}$	0.30	0.37	0.45

*Means

Although the growth rate is largest for the R3 class this does not necessarily contradict the point made at the bottom of page 48. That is, the rate of growth depends on the aggressiveness of the "debugging" program, not necessarily on the absolute amount of growth potential available.

SECTION 6.0 - GUIDELINES FOR APPLICATIONS AND CONCLUSIONS

The results of the data analyses make it clear that, generally, a number of models can be used to fit any particular situation. In this connection we note that while we tried only six different models here, there are many other possibilities and it is likely some of them would also graduate the data well. It is also important that we distinguish how well a given model fits from whether it fits at all. The primary case here is the Duane model. While it was rarely the best fitting model, significance tests indicate that it virtually always fits; which is quite a point in its favor.

Many interesting things were learned by analyzing this data in terms of the various factors defining the data classes and by investigating reliability gain. These results form the basis for the guidelines for applications.

Before proceeding to these guidelines we note the most important conclusion (perhaps already known to the reader) learned from the study.

THE RELIABILITY GROWTH PROCESS IS AN EXTREMELY COMPLEX PHYSICAL PROCESS AND MAY REQUIRE QUITE SOPHISTICATED MATHEMATICAL TOOLS.

When we say "physically complex" we mean the type of failures present, the rate at which they present themselves for detection, and the aggressiveness and consistency of the testing process. Mathematically the growth process is a stochastic process. Now it turns out that, in spite of the wealth of literature on the subject (see ref. [14]), only relatively simple stochastic processes have been studied and analyzed in any detail. It may well be that quite complex stochastic processes are required to model growth processes closely. This brings up another point. Other than recognizing the Duane model as a nonhomogeneous Poisson process with Weibull intensity (a very recent development) the approach to growth models has been, historically, through the use of differential equations. It is our belief that to achieve physically and mathematically satisfying results, reliability growth will have to be approached from the study of stochastic processes. This will result in better estimators for the unknown parameters and a better understanding of the process itself. Thus, the user would be able to more intelligently select a model.

To prove this point of physical complexity, we recall that the simple exponential model, unappealing because it demands an infinite cumulative MTBF, eventually, was far and away the best fitting model. It appears that reliability growth may encompass several phases and that even several different mathematical functions (models) might be required to describe reliability growth.

Guidelines for Applications - Data Class Factors

- Ground versus Airborne Systems/Equipments

Generally, the models tried here fit the airborne data ($\bar{R} = 19.37$, R.E. = 0.35) better than the ground based data ($\bar{R} = 23.30$, R.E. = 0.86). For ground based data the Lloyd-Lipow, Aroef and simple exponential models are quite good but only the IBM and exponential models are unsatisfactory. For airborne data all the models fit very well except the Duane model; however, the exponential model is superior to all the other models.

- In-House versus Field Data

With respect to R.E., the models describe in-house data better than field data overall. Apart from the simple exponential being a good fit as usual all the models fit in-house reasonably well (the exponential model is better than all save the simple exponential model). For field data only three models are satisfactory: the Lloyd-Lipow, Aroef, and simple exponential models.

- Systems/Equipment Categories

- Antennas - all models are suitable except the Duane model.
- Radar and microwave - the Duane and simple exponential models are very good.
- Displays, computers, communicators - the Lloyd-Lipow, Aroef and simple exponential are models which fit well.
- Infrared - All models except the Duane model are excellent.
- Lasers - the exponential model is vastly superior to the other models.

- Reliability Gain

The details of calculating reliability gain are given in section 5.5. Roughly it is the ratio of final cumulative MTBF to initial cumulative MTBF. The results given here are based on the Duane model for reasons given in section 5.5.

Generally speaking the reliability gains, over all data classifications were good, i.e., on the order of about 5 to 1 on the average.

With respect to ground based versus airborne data the potential for reliability gain is larger (i.e., larger reliability gain) for ground based systems/equipments. This may well be due to more intensive card level (pre-equipment and system) tests used on many airborne systems.

In terms of in-house versus field data, the results (see Table 5.6) show that the reliability gain for in-house exceeds the field gain by a factor of 2 to 1. This is as expected and could be summarized by saying, as is well known, the growth potential is greater and the cost of removing/correcting defects is lower during in-house testing.

In terms of the reliability expenditure categories R1 (low), R2 (moderate), R3 (higher), the lowest gain (see Table 5.5) is achieved at the lowest expenditure level R1. There is a "crossover" in that R2 results in more gain than R3. This is probably due to two effects.

- i) The additional expenditure (in R3) caused a better design and hence less potential for gain was available.

- ii) There is relatively less R2 and R3 data than R1 and this result may have been due to sampling error, or to incorrect classification, e.g., misclassifying an R2 into an R3 category.

Next we give the growth rate for the Duane model which provides a different but interesting view of the R1, R2 and R3 categories.

● Parametric Analysis for the Duane Model

We mentioned in section 3.1 (equation 3.1) that the Duane model is

$$\ln \text{cumulative MTBF} = \beta \ln k + (1 - \beta) \ln t.$$

Hence $1 - \hat{\beta}$ is an estimate of the logarithmic growth rate $1 - \beta$. There is no difference in the growth rate between airborne and ground equipment. However, for in-house the growth rate (0.36) is much higher than the field growth rate (0.28). The interesting result is to compare the Duane model growth rates in terms of reliability categories. They are:

R1 - 0.30
R2 - 0.37
R3 - 0.45

This last rate, 0.45, is very close to the much talked about 0.50 growth rate for well monitored, well controlled programs.

● Procedure for Using Reliability Growth Models

1. Locate in Tables 5.3 and 5.4 the model that has the best fit (try to find the model that between both tables has the lowest \bar{R} & R.E. for the particular situation in question) for the particular equipment, environment, and type of growth being considered.

2. Use Table 4.1 to find the parameters that have to be calculated and the form of the model.

3. Locate in either Table 4.3 (for ground) or 4.4 (for airborne) the pertinent data base for the equipment/system being considered. Estimate each parameter by averaging those found for each equipment/system in the data base (i.e.,

$$\hat{P}_1 = \frac{\sum_{i=1}^N P_{1i}}{N} \quad \text{where } \hat{P}_1 \text{ is the value of } P_1 \text{ to be used in}$$

the growth model for the equipment/system being considered and P_{1i} are the estimated parameters from the data base).

4. Use examples in sections 4.1.1 through 4.1.6 and 6.1 and the explanation of each model in sections 3.1 through 3.6 to aid in calculating the desired times and MTBFs.

6.1 Examples of Use of Models

Example 1. Suppose it is desired to develop an airborne laser system to a specified MTBF = $\theta_0 = 25$ hrs. at a low level of reliability effort (i.e. R1). Tables 5.3, 5.4 pages 45, 46 indicates the (single-term power series) exponential model is excellent for in-house airborne systems. Proceeding to Table 4.4, page 169, we find two data sets on system no. 21 for laser systems in-house, airborne, R1. From page 22, equation (3.14) we have

$$\text{cumulative MTBF} = Y(t) = K(1 - K_1 e^{-K_2 t})$$

and from the bottom of page 22 the initial MTBF = $K(1 - K_1)$. From Table 4.1 we learn that

$$P1 = \hat{K}, P2 = \hat{K}_1, P3 = \hat{K}_2.$$

Since the two data sets are on the same system no. we will average the values to obtain our estimates:

$$\hat{K} = \frac{28.02 + 30.64}{2} = 29.33; \hat{K}_1 = \frac{0.9524 + 0.8225}{2} = 0.89;$$

$$\hat{K}_2 = \frac{0.002608 + 0.002798}{2} = 0.0027.$$

Thus, initial MTBF is estimated to be $\hat{K}(1 - \hat{K}_1) = 29.33(0.11) = 3.23$.

The key issue is: how much developmental test time is required to achieve $\theta_0 = 25$ hrs. Thus setting

$$25 = \hat{K}(1 - \hat{K}_1 e^{-\hat{K}_2 t}) \text{ and solving for } t \text{ we get}$$

$$\begin{aligned} t &= \frac{1}{\hat{K}_2} \left\{ -\ln \left[\left(1 - \frac{25}{\hat{K}}\right) \left(\frac{1}{\hat{K}_1}\right) \right] \right\} \\ &= \frac{1}{0.0027} \left\{ -\ln \left[\left(1 - \frac{25}{29.3}\right) \left(\frac{1}{0.89}\right) \right] \right\} \\ &= 664 \text{ hrs} \end{aligned}$$

If this t is too long then more reliability effort must be expended during the development testing. It should be noted that the parameters for the two data sets were so close a weighted average (based on the number of failures in the two sets) was not used.

Example 2. In this example we consider development of a radar system (in-house) to a specified MTBF = 100 hrs at R3. Table 5.4, page 46 indicates the Duane model is a good fit. Table 4.3, page 78, shows two data sets on the same system. Rather than complicate this example with weighted averages of the parameters (the number of failures on the two data sets are 14 and 53) we will just use data set number 2. From equation (3.5), page 19,

$$\begin{aligned} \text{initial MTBF} &= \hat{K} \Gamma(1/\hat{\beta} + 1) = 24.64 \Gamma(1/0.745 + 1) \\ &= 24.64 \Gamma(2.34) = 24.64 (1.195) \\ &= 29.44 \end{aligned}$$

From equation (3.3), page 18, we obtain (for the time required to achieve a cumulative MTBF of 100 hrs)

$$\begin{aligned} t^{1-\hat{\beta}} &= Y(t)/\hat{K}^{\hat{\beta}} \text{ so that} \\ t &= \left[Y(t)/\hat{K}^{\hat{\beta}} \right]^{1/(1-\hat{\beta})} \\ &= \left[100/(24.64)^{0.745} \right]^{1/0.255} \\ &= 5973 \text{ hrs} \end{aligned}$$

This is extremely long because the growth rate (0.255) is low. If the "customer" is satisfied that only the instantaneous (and not the cumulative) MTBF be 150 hrs then equation (3.6), page 19, gives

$$\begin{aligned} t^{1-\hat{\beta}} &= \frac{\hat{\beta} (100)}{\hat{K}^{\hat{\beta}}} \text{ so that} \\ t &= \left[\frac{(100) (0.745)}{(24.64)^{0.745}} \right]^{1/0.255} \\ &= 1888 \text{ hrs.} \end{aligned}$$



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SECTION 7.0 - RECOMMENDATIONS

As a result of this study a large data base has been built. Moreover, the funds available on this program could not nearly exhaust the analyses that could be run; indeed, a large part of the funds was expended building the data base. Thus we are recommending more analysis of the data now available.

In particular we recommend two or three new models be investigated based on a stochastic process approach. Specifically, the nonhomogeneous Poisson process with intensity functions different from the Weibull intensity (which corresponds to the Duane model) should be investigated. This will improve the parameter estimation techniques and lead to a better understanding of the growth process.

Also, we recommend a more intensive analysis of selected data sets. What we mean is that each individual data set selected should be subjected to a (sequential) failure by failure fit. That is, the models selected shall be fit subsequent to each failure to determine whether the best fit changes from failure to failure.

Finally, (and this point relates to the stochastic process approach mentioned above) the growth rates should be classified and investigated by data class factor.

SECTION 8 - COMPUTER MODEL DESCRIPTION

8.1 General Description

The reliability growth software routines were programmed in Fortran IV, utilizing the Hughes computer installation consisting of an IBM 370-165 with extensive library modules.

Data reduction was accomplished through multi-job step procedures, as depicted in diagram 1. Software coding was minimized by using "canned routines," i.e., programs existing in Hughes software library. New software was added only to merge the existing general purpose routines into an integrated data processing program for the Reliability Growth study. The "canned routines" included the UCLA Biomedical computer programs for non-linear least squares and Hughes own programs for curve fitting; both linear and exponential.

8.2 System Failure Data Sets

The ground and airborne system data was stored in permanent computer storage (data sets). Originally we had two (raw) data sets on ATS (administrative technical service), then the data sets were printed, checked and corrected during the restructuring and creation of new data sets. Restructuring was necessary to make the data compatible with the input requirement of the canned routines. Also, additional information was provided in terms of general parameters necessary for the Biomedical Computer Programs (BMD).

8.3 The Biomedical Computer Program

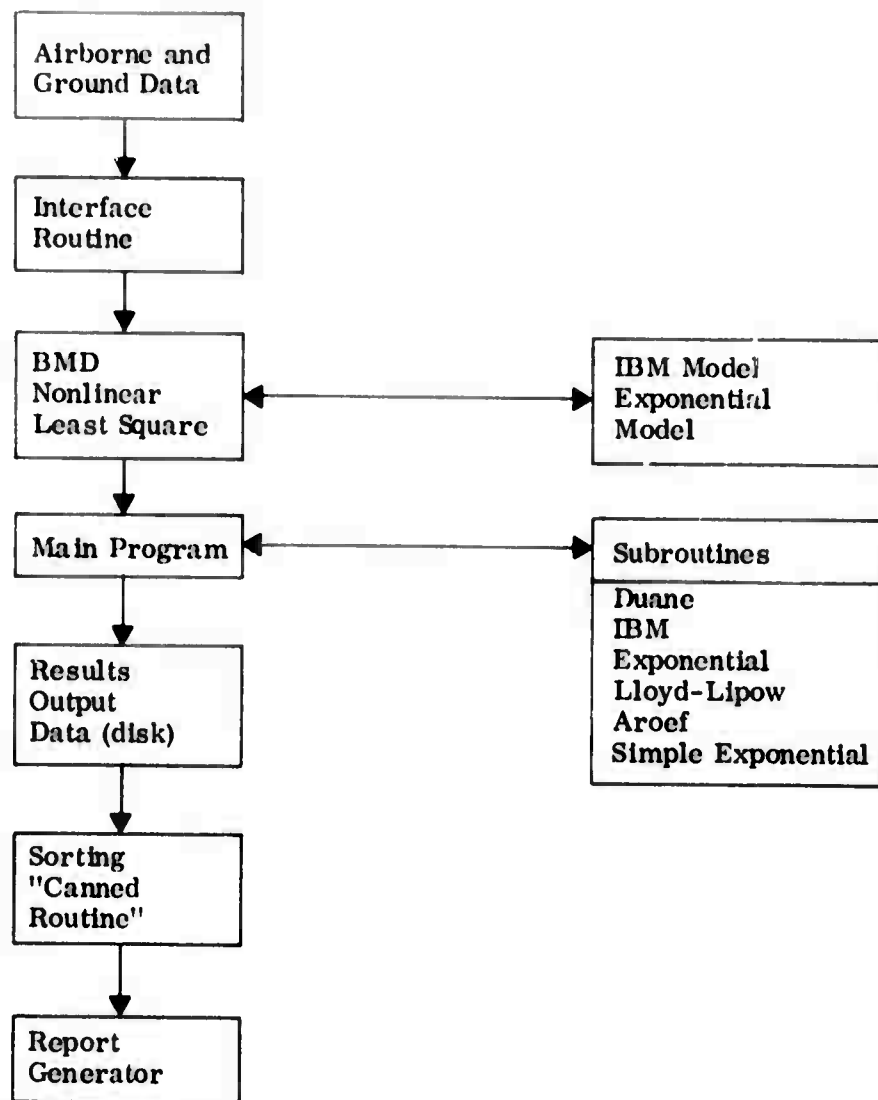
8.3.1 BMD program. The Biomedical Computer Program, (BMDO7R) non-linear least squares, was utilized on two models the IBM and the exponential (single-term power series). The BMDO7R was available only in load module form; consequently, it could not be modified. Therefore, the output coefficients for the models were rekey punched and stored as separate data sets.

8.3.2 Non-linear least squares program. The non-linear regression program obtains a least squared fit of a specific function to data values by means of step-wise Gauss-Newton iterations on the parameters. Within each iteration parameters are selected for modification in the stepwise manner. The parameter selected at a given step is the one which, differentially at least, makes the greatest reduction in the sum of the squares error.

The IBM and exponential (single term power series) model subroutines were coded in Fortran, with the respective derivatives needed for the coefficient evaluation. In all cases the number of iterations was limited to 100, and in a few of the cases the process would not converge.

8.4 The Main Program

The main program has a subroutine for each of the six growth models which is called for each case of the ground and airborne data sets. The subroutines



Data Reduction Program

DIAGRAM No. 1

perform calculations which are passed back to the main program through calling argument list. The system information is then written on separate data set files for subsequent sorting by equipment type, field or in-house and reliability level. The main program also calculates the β and \hat{K} for the Duane model.

8.4.1 The Duane subroutine. The Duane Model routine uses the data to calculate the maximum likelihood estimates \hat{K} and $\hat{\beta}$ given in equation (3.4).

8.4.2 The IBM subroutine. The IBM subroutine fits the following expression

$$V(t_i) = t_i + K_1 (1 - e^{-K_2 t_i})$$

where λ , K_1 and K_2 are coefficients to be calculated by the BMD program. The parameter data is read from cards for each case because a link between the BMD routine and the main program could not be established.

8.4.3 The exponential (single-term power series model) subroutine. The above discussion applies to the exponential model where the following expression was fitted

$$Y(t_i) = + K (1 - K_1 e^{-K_2 t_i}).$$

In both the IBM and exponential models the range of x in the factor e^{-x} had to be restricted to less than 174.67 otherwise machine diagnostic would indicate machine underflow.

8.4.4 The Lloyd-Lipow subroutine. In the Lloyd-Lipow subroutine the curve fit routine is called to obtain the coefficients used to fit the following expression:

$$Y(t_i) = MTBF_i = K - K_2/t_i$$

where K and K_2 are derived by the curve fit module, and t_i is equal to the time of the i^{th} failure.

8.4.5 The Aroef subroutine. The procedure is the same as 8.4.4 except the expression to be fitted is as follows:

$$Y(t_i) = MTBF_i = K e^{-K_2 t_i}.$$

8.4.6 The simple exponential subroutine. The procedure is the same as 8.4.4 except the expression to be evaluated is as follows:

$$Y(t_i) = \text{MTBF}_i = K e^{K_2 t_i}$$

8.4.7 Model output data. The calculation from the model subroutine are further processed to determine the statistical goodness of fit criteria \bar{R} and R.E. (see Section 3.7). The subroutine data and the statistical goodness of fit criteria are stored in permanent disk storage for additional processing in preparation for the report generator.

8.4.8 Report generation. The results from the main program are sorted and merged into one large file to facilitate processing. Individual reports for each model are prepared with a data set summary report. This is done for both the ground and airborne system data (see Tables 4.3, 4.4, and 5.2).

8.4.9 Example of method of estimating model coefficients. To illustrate the method of least squares as applied to estimating the model coefficients consider the (non-linear) exponential-single term power series model:

$Y(t) = K (1 - K_1 e^{-K_2 t})$. Here K , K_1 , and K_2 are unknown. The data consists of n pairs (Y_i, t_i) where Y_i is the cumulative MTBF at time t_i . Defining $\hat{Y}(t) = \hat{K}(1 - \hat{K}_1 e^{-\hat{K}_2 t})$ we need to find estimates \hat{K} , \hat{K}_1 , and \hat{K}_2 so that $Q = \sum_{i=1}^n (\hat{Y}(t_i) - Y_i)^2$ is a minimum. This

is the least squares approach. The equations for \hat{K} , \hat{K}_1 , and \hat{K}_2 are not available in closed form except in the linear case. The computer routines solve the three equations $\frac{\partial Q}{\partial \hat{K}} = 0$; $\frac{\partial Q}{\partial \hat{K}_1} = 0$; $\frac{\partial Q}{\partial \hat{K}_2} = 0$ iteratively for \hat{K} , \hat{K}_1 , \hat{K}_2 . For the linear case the equations may be found in almost every statistics book.

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TABLE 4.3
DUANE MODEL
GROUND SYSTEM
ANTENNA
FIELD

	SVNO	NO, FAIL	HOURS	P1	P2	P3	P4	QBAR	RE
R1 NO. 1	12	7	18304	0.5620E+00	0.5770E+03	0.3133E+00	0.0240E+01	41.103	1.711
R1 NO. 2	12	3	24804	0.6051E+00	0.8037E+04	0.2223E+00	0.1077E+00	71.271	0.695
R1 NO. 3	5	3	2767	0.0703E+00	0.7930E+03	0.3190E+00	0.0991E+01	71.526	13.342
R1 NO. 4	5	9	3032	0.4023E+00	0.3500E+02	0.2549E+00	0.1675E+00	29.430	0.105
R1 NO. 5	5	6	1373	0.7530E+00	0.1875E+03	0.3962E+00	0.0212E+01	64.673	0.330
R1 NO. 6	5	6	7126	0.4000E+00	0.1799E+03	0.2590E+00	0.1125E+00	82.240	0.067
R1 NO. 7	5	4	2663	0.1193E+01	0.0320E+03	0.3205E+00	0.1176E+00	52.984	23.105
R1 NO. 8	5	7	407	0.1003E+01	0.6290E+02	0.5009E+00	0.1365E+00	59.384	2.044
R1 NO. 9	4	10	4200	0.1144E+01	0.3367E+04	0.7615E+00	0.2103E+00	51.979	3.032
R1 NO. 10	4	14	4600	0.7566E+00	0.1430E+04	0.5110E+00	0.1019E+00	33.669	1.004
R1 NO. 11	4	23	4790	0.0416E+00	0.1150E+04	0.5944E+00	0.7809E+01	29.192	0.037
R1 NO. 12	4	41	4840	0.0504E+00	0.6132E+03	0.6713E+00	0.4102E+00	26.704	1.174
R1 NO. 13	4	73	4940	0.0284E+00	0.2909E+03	0.6930E+00	0.2775E+00	14.240	1.171
R1 NO. 14	4	13	5140	0.2260E+01	0.1661E+03	0.1509E+01	0.1661E+00	36.215	0.675
R1 NO. 15	4	20	3179	0.0746E+00	0.1041E+04	0.7160E+00	0.0100E+00	44.007	0.922
R1 NO. 16	4	33	10240	0.7170E+00	0.1390E+03	0.5637E+00	0.4949E+00	31.362	1.254
R1 NO. 17	4	35	3360	0.1237E+01	0.1900E+04	0.9775E+00	0.6001E+01	12.580	1.176
R1 NO. 18	4	14	24920	0.0436E+00	0.1091E+04	0.5707E+00	0.2514E+00	35.905	2.206
R1 NO. 19	4	61	3200	0.0291E+00	0.2290E+03	0.6929E+00	0.0240E+00	19.120	0.274
R1 NO. 20	4	80	4200	0.6770E+00	0.6541E+02	0.5740E+00	0.1240E+01	23.429	2.710
R1 NO. 21	4	22	3540	0.1203E+01	0.2710E+04	0.8801E+00	0.2363E+00	24.960	0.673

TABLE 4.3 (Continued)

DUANE MODEL GROUND SYSTEM ANTENNA IN-HOUSE									
RS NO.	1	2	3	4	5	6	7	8	9
SYSD NO.	1	2	3	4	5	6	7	8	9
NO. FAIL	1	2	3	4	5	6	7	8	9
HOURS	1	2	3	4	5	6	7	8	9
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
RS NO. 1	1	2	3	4	5	6	7	8	9
RS NO. 2	1	2	3	4	5	6	7	8	9
RS NO. 3	1	2	3	4	5	6	7	8	9

DUANE MODEL GROUND SYSTEM RADAR FIELD									
RS NO.	1	2	3	4	5	6	7	8	9
SYSD NO.	1	2	3	4	5	6	7	8	9
NO. FAIL	1	2	3	4	5	6	7	8	9
HOURS	1	2	3	4	5	6	7	8	9
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
RS NO. 1	1	2	3	4	5	6	7	8	9
RS NO. 2	1	2	3	4	5	6	7	8	9
RS NO. 3	1	2	3	4	5	6	7	8	9
RS NO. 4	1	2	3	4	5	6	7	8	9
RS NO. 5	1	2	3	4	5	6	7	8	9
RS NO. 6	1	2	3	4	5	6	7	8	9
RS NO. 7	1	2	3	4	5	6	7	8	9
RS NO. 8	1	2	3	4	5	6	7	8	9

TABLE 4.3 (Continued)

DUANE MODEL GROUND SYSTEM RADAR IN-MOUSE									
RJ NO.	NO.	1	20	3	10	12	11	10	RE
RJ NO. 1	1	20	6369	0.6267E+00	0.3124E+02	0.4005E+00	0.1043E+00	12.994	0.131
RJ NO. 2	1	3	2076	0.4693E+00	0.1990E+03	0.1724E+00	0.0670E+01	74.955	0.471
RJ NO. 3	10	10	3022	0.0340E+00	0.1194E+03	0.5941E+00	0.2311E+00	20.742	0.502
RJ NO. 4	10	12	5370	0.2316E+01	0.1037E+00	0.1355E+01	0.4074E+01	21.423	0.661
RJ NO. 5	10	11	4650	0.1200E+01	0.6392E+03	0.7710E+00	0.1100E+00	49.597	0.040

TABLE 4.3 (Continued)
DUANE MODEL
GROUND SYSTEM
MICROWAVE
FIELD

RI NO.	SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
RI NO. 1	4	114	42070	0.9390E+00	0.2727E+03	0.0213E+00	0.2226E+00	9.001	0.044
RI NO. 2	4	254	46000	0.6516E+00	0.9275E+01	0.5979E+00	0.1030E+01	17.304	0.390
RI NO. 3	4	240	47000	0.7250E+00	0.2920E+02	0.6636E+00	0.2200E+01	20.617	0.100
RI NO. 4	4	183	46700	0.5676E+00	0.4034E+01	0.5116E+00	0.2446E+01	23.602	0.024
RI NO. 5	5	10	407	0.1111E+01	0.5120E+02	0.6912E+00	0.1634E+00	36.699	2.230
RI NO. 6	5	40	2663	0.9726E+00	0.6000E+02	0.7596E+00	0.2014E+00	17.453	1.094
RI NO. 7	5	26	1373	0.2491E+01	0.3713E+03	0.1806E+01	0.6773E+01	15.535	0.560
RI NO. 8	5	42	7124	0.5590E+00	0.8971E+01	0.4523E+00	0.3020E+00	24.314	0.227
RI NO. 9	5	45	3032	0.8131E+00	0.2000E+02	0.6450E+00	0.2714E+00	16.302	1.055
RI NO. 10	5	4	161	0.1046E+01	0.4277E+02	0.2802E+00	0.7207E+01	55.090	7.075
RI NO. 11	5	26	2767	0.8161E+00	0.4957E+02	0.6143E+00	0.1232E+00	17.762	0.304
RI NO. 12	4	147	35400	0.8750E+00	0.1104E+03	0.7766E+00	0.339E+01	19.175	1.006
RI NO. 13	4	30E	42610	0.6614E+00	0.7502E+01	0.6110E+00	0.2045E+01	22.177	1.005
RI NO. 14	4	203	32000	0.6050E+00	0.8640E+01	0.6310E+00	0.1060E+01	10.670	0.207
RI NO. 15	4	173	26920	0.7291E+00	0.2122E+02	0.6550E+00	0.6097E+00	19.035	0.961
RI NO. 16	4	25	33600	0.7550E+00	0.2251E+02	0.6924E+00	0.1067E+01	15.322	1.650
RI NO. 17	4	140	10200	0.6300E+00	0.6949E+01	0.5615E+00	0.1225E+01	21.691	0.640
RI NO. 18	4	142	41700	0.9091E+00	0.2257E+03	0.8422E+00	0.1900E+01	27.643	0.764
RI NO. 19	4	160	51400	0.6532E+00	0.2173E+02	0.5841E+00	0.7092E+00	12.946	0.240
RI NO. 20	4	440	46034	0.7006E+00	0.8491E+01	0.6645E+00	0.1562E+01	14.623	0.050

TABLE 4.3 (Continued)

DUANE MODEL GROUND SYSTEM MICROWAVE IN-HOUSE									
RI NO. 1	5	33	1122	0.0010E+00	0.2060E+02	0.7505E+00	0.1955E+00	26.174	0.010
SYNO	NO, FAIL	HOURS	P1	P2	P3	P4	REAR	RE	

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

RI NO. 1	11	34	1140	0.5247E+00	0.1300E+02	0.3095E+00	0.1295E+00	10.070	0.043
RI NO. 2	11	17	4302	0.5025E+00	0.3303E+02	0.0104E+00	0.0009E+01	19.079	0.070
RI NO. 3	12	30	10300	0.6676E+00	0.1122E+03	0.0973E+00	0.5620E+00	25.091	1.326
RI NO. 4	12	7	9165	0.3219E+00	0.2173E+02	0.1792E+00	0.2540E+00	44.037	0.027
RI NO. 5	12	4	712	0.5710E+00	0.6300E+02	0.2402E+00	0.5563E+01	55.190	0.619
RI NO. 6	11	49	9663	0.0203E+00	0.0400E+02	0.6742E+00	0.1101E+00	11.954	0.006
RI NO. 7	11	117	10000	0.1075E+01	0.1290E+03	0.9500E+00	0.2722E+01	6.915	0.623
RI NO. 8	12	33	20004	0.9671E+00	0.6673E+03	0.7506E+00	0.1029E+00	10.539	1.003
RI NO. 9	11	177	7000	0.4095E+00	0.2000E+00	0.6900E+00	0.1230E+01	21.994	0.128

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

RZ NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SYSHO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO. FAIL	15	7	16	11	15	4	9	17	18	11	3	4	3	3	3	4	11	14	9	6
HOURS	9425	8246	7570	9425	45376	22037	45059	8079	11916	17219	2237	2267	2332	1900	631	3492	4096	44314	45376	33320
P1	0.7435E+00	0.6017E+00	0.7359E+00	0.1171E+01	0.4610E+00	0.6856E+00	0.6641E+00	0.1730E+01	0.9731E+00	0.1100E+01	0.3700E+01	0.1203E+01	0.1229E+01	0.1220E+01	0.3030E+01	0.1023E+01	0.1396E+01	0.6721E+00	0.5305E+00	0.5625E+00
P2	0.2460E+03	0.3240E+03	0.1740E+03	0.1215E+04	0.1276E+03	0.2017E+04	0.3950E+03	0.1700E+04	0.6122E+03	0.2352E+04	0.1073E+04	0.7027E+03	0.9500E+03	0.8097E+03	0.4591E+03	0.1632E+04	0.7350E+03	0.8733E+03	0.7210E+03	0.1370E+04
P3	0.6694E+00	0.2711E+00	0.4730E+00	0.6623E+00	0.3166E+00	0.2992E+00	0.2802E+00	0.1139E+01	0.6075E+00	0.7333E+00	0.6677E+00	0.3536E+00	0.2163E+00	0.2170E+00	0.6100E+00	0.5020E+00	0.7897E+00	0.4540E+00	0.3203E+00	0.2936E+00
P4	0.9903E+01	0.1072E+00	0.1030E+00	0.5260E+01	0.1992E+00	0.1301E+00	0.8643E+01	0.9323E+01	0.3432E+01	0.2245E+01	0.1020E+00	0.5000E+01	0.8092E+01	0.1206E+00	0.1021E+00	0.5302E+01	0.1255E+01	0.5157E+01	0.0000E+01	0.7705E+01
REAR	20.417	32.864	20.416	31.936	35.726	54.027	30.555	26.347	14.317	22.075	70.269	65.004	90.029	74.622	70.910	62.290	29.382	26.732	20.070	53.225
RE	0.409	0.401	0.506	7.122	0.713	0.066	4.373	0.007	3.000	739.301	65.416	21.135	15.150	21.400	79.302	1319.069	123.026	0.409	0.473	7.005

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	RRAR	RE
R2 NO. 21	0	3	45221	0.5541E+00	0.6226E+00	0.2036E+00	0.0980E+01		93.160	0.122
R2 NO. 22	0	16	45077	0.4721E+00	0.1200E+03	0.3206E+00	0.4611E+01		21.100	0.019
R2 NO. 23	0	10	45261	0.0230E+00	0.2750E+00	0.5121E+00	0.5902E+01		30.775	0.930

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	RRAR	RE
R3 NO. 1	17	5	3704	0.6935E+00	0.3710E+03	0.2022E+00	0.0702E+01		80.360	0.253
R3 NO. 2	2	12	4336	0.6695E+00	0.1540E+03	0.0309E+00	0.1101E+00		20.090	0.516
R3 NO. 3	2	0	4576	0.5506E+00	0.1008E+03	0.3206E+00	0.2091E+01		29.341	0.270

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
DISPLAY
IN-MOUSE

R2 NO.	1	2	3	4	5
SVSNO	8	8	8	8	8
NO,FAIL	103	100	50	33	16
HOURS	2700	3200	3700	3700	2500
P1	0.4105E+00	0.4710E+00	0.5100E+00	0.3637E+00	0.7630E+00
P2	0.3219E+01	0.1047E+00	0.1043E+01	0.2470E+00	0.6633E+02
P3	0.3560E+00	0.4000E+00	0.4172E+00	0.2755E+00	0.4910E+00
P4	0.2352E+01	0.7100E+00	0.2406E+00	0.1490E+01	0.9152E+01
RBAR	30.586	20.674	20.964	52.469	23.723
RE	0.304	0.093	0.046	0.236	0.519

DUANE MODEL
GROUND SYSTEM
DISPLAY
IN-MOUSE

R3 NO.	1	2	3	4	5	6	7
SVSNO	7	7	7	2	2	1	1
NO,FAIL	17	32	12	304	211	6	21
HOURS	2103	2200	3322	3415	4936	4689	6140
P1	0.5630E+00	0.8632E+00	0.1410E+01	0.6670E+00	0.1012E+01	0.6750E+00	0.0666E+00
P2	0.1402E+02	0.8097E+02	0.3727E+03	0.4581E+00	0.2292E+02	0.3277E+03	0.1020E+03
P3	0.3690E+00	0.4505E+00	0.0272E+00	0.6241E+00	0.9230E+01	0.3540E+00	0.6345E+00
P4	0.1354E+00	0.3509E+00	0.1700E+00	0.2324E+01	0.1501E+01	0.5430E+01	0.2027E+00
RBAR	19.609	32.296	40.806	26.075	26.945	65.229	23.039
RE	0.124	0.761	0.980	3.462	0.901	1.969	2.534

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
COMPUTER
FIELD

	SVSNO	NO. FAIL	HOURS	P1	P2	P3	P4	MEAN	RE
R1 NO. 1	11	34	11490	0.0000E+00	0.3002E+02	0.5050E+00	0.0130E+01	12,153	0.094
R1 NO. 2	11	33	9703	0.0017E+00	0.2000E+01	0.3300E+00	0.2001E+00	25,933	0.022
R1 NO. 3	12	16	9165	0.0000E+00	0.1270E+03	0.0513E+00	0.2010E+00	39,481	0.095
R1 NO. 4	13	19	11000	0.7750E+00	0.2042E+03	0.5577E+00	0.2920E+00	26,997	5,261
R1 NO. 5	12	35	10304	0.9100E+00	0.1430E+02	0.0099E+00	0.2775E+00	16,316	0.211
R1 NO. 6	16	5	2513	0.0092E+00	0.0190E+03	0.0370E+00	0.7599E+01	50,794	1,733
R1 NO. 7	15	9	11209	0.7010E+00	0.0741E+03	0.0035E+00	0.5662E+01	26,303	0.012
R1 NO. 8	15	7	10602	0.1950E+01	0.0091E+04	0.1000E+01	0.7041E+01	50,406	37,029
R1 NO. 9	15	9	16192	0.1020E+01	0.1000E+04	0.0102E+00	0.1753E+00	30,252	2,307
R1 NO. 10	15	19	23095	0.0051E+00	0.1110E+04	0.0513E+00	0.7377E+01	27,105	0.090
R1 NO. 11	15	10	15741	0.0170E+00	0.3701E+03	0.3003E+00	0.2014E+00	36,737	9,706
R1 NO. 12	15	17	23572	0.00010E+00	0.1340E+04	0.0073E+00	0.2927E+01	19,131	0.502
R1 NO. 13	15	20	15756	0.1102E+01	0.1000E+04	0.0004E+00	0.0700E+01	13,902	1,705
R1 NO. 14	18	16	13000	0.1000E+01	0.0710E+03	0.7021E+00	0.6070E+01	15,601	19,030
R1 NO. 15	15	34	23600	0.0000E+00	0.3000E+03	0.0532E+00	0.6090E+01	12,037	0.136
R1 NO. 16	11	35	10323	0.7700E+00	0.1001E+03	0.9066E+00	0.1401E+00	13,365	0.593
R1 NO. 17	12	41	20004	0.1030E+01	0.0023E+03	0.0299E+00	0.2555E+00	27,621	1,063
R1 NO. 18	11	36	9033	0.1541E+01	0.0000E+03	0.1134E+01	0.9007E+01	31,717	16,710
R1 NO. 19	11	35	12141	0.0002E+00	0.0323E+02	0.5377E+00	0.7607E+01	13,704	0.103

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
COMPUTER
FIELD

	SVENO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	17	10	3965	0.5449E+00	0.5707E+02	0.2061E+00	0.1300E+00	59.819	0.126
R3	NO. 2	2	16	4576	0.5322E+00	0.2501E+02	0.3705E+00	0.1056E+00	29.977	0.058
R3	NO. 3	2	9	6336	0.1303E+01	0.1173E+04	0.7867E+00	0.3149E+01	26.069	0.965

DUANE MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SVENO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	06	4867	0.3610E+00	0.4801E+01	0.4470E+00	0.1640E+00	15.173	0.007
R1	NO. 2	16	12	2043	0.5067E+00	0.1516E+02	0.2361E+00	0.0219E+01	66.735	0.027
R1	NO. 3	16	43	11109	0.1555E+01	0.9906E+03	0.1260E+01	0.3840E+00	29.156	16.105
R1	NO. 4	14	45	10666	0.1500E+01	0.0595E+03	0.1220E+01	0.1070E+00	23.585	13.222
R1	NO. 5	14	9	2792	0.0000E+00	0.2173E+03	0.5196E+00	0.3150E+01	25.392	4.375

DUANE MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SVENO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	13	10	1540	0.8050E+00	0.0260E+02	0.5730E+00	0.7700E+01	26.862	2.125

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
COMPUTER
IN HOUSE

	SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	1	9	10	1726	0.2376E+00	0.1000E+00	0.1291E+00	0.1866E+00	0.004
R3	NO. 2	9	25	2261	0.0102E+00	0.1000E+01	0.3100E+00	0.6355E+00	0.223
R3	NO. 3	9	24	2370	0.5450E+00	0.6900E+01	0.3000E+00	0.1957E+00	0.132
R3	NO. 4	9	3	3103	0.2070E+00	0.6830E+02	0.3065E+01	0.1020E+00	0.500
R3	NO. 5	2	74	3413	0.6205E+00	0.3310E+01	0.5300E+00	0.4423E+00	0.073
R3	NO. 6	2	67	4536	0.5502E+00	0.2177E+01	0.8660E+00	0.7753E+00	1.236
R3	NO. 7	1	3	6513	0.1570E+01	0.3071E+04	0.7683E+00	0.9271E+01	1.001
R3	NO. 8	1	4	6330	0.1300E+01	0.2102E+04	0.5078E+00	0.2291E+00	9.121

TABLE 4.3 (Continued)
DAMAGE MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

	SVSNO	NO.	FAIL	HOURS	P1	P2	P3	P4	NOAR	RZ
R1 NO. 1	4	14	35000	0.0710E+00	0.1714E+04	0.5096E+00	0.2444E+00	0.2444E+00	39,876	1,261
R1 NO. 2	4	25	40000	0.0017E+00	0.0452E+03	0.5765E+00	0.0100E+00	0.0100E+00	34,202	1,226
R1 NO. 3	4	11	51000	0.1106E+01	0.6932E+04	0.7630E+00	0.0000E+01	0.0000E+01	22,001	1,100
R1 NO. 4	4	11	41700	0.5092E+01	0.2600E+05	0.2050E+01	0.1004E+00	0.1004E+00	43,943	1,093
R1 NO. 5	6	16	33000	0.0037E+00	0.2000E+00	0.6002E+00	0.1371E+00	0.1371E+00	23,303	1,006
R1 NO. 6	6	16	24920	0.1160E+01	0.2205E+04	0.0077E+00	0.1717E+00	0.1717E+00	46,548	3,000
R1 NO. 7	4	16	32000	0.0430E+00	0.1233E+04	0.5027E+00	0.0103E+01	0.0103E+01	27,333	0,022
R1 NO. 8	4	95	42000	0.0002E+00	0.1970E+03	0.7313E+00	0.1304E+01	0.1304E+01	26,732	0,000
R1 NO. 9	4	4	40000	0.5704E+00	0.0110E+04	0.2490E+00	0.1299E+00	0.1299E+00	93,932	3,900
R1 NO. 10	4	36	47000	0.2610E+01	0.1210E+05	0.2006E+01	0.2006E+00	0.2006E+00	27,322	0,079
R1 NO. 11	4	23	40000	0.0772E+00	0.1313E+00	0.6529E+00	0.2404E+00	0.2404E+00	22,049	1,055
R1 NO. 12	4	3	42000	0.7740E+00	0.1010E+03	0.2007E+00	0.1005E+00	0.1005E+00	64,093	12,780

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TABLE 4.3 (Continued)

DUANE MODEL GROUND SYSTEM COMMUNICATIONS IN-HOUSE									
	SYSTMO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	2	20	3615	0.0003E+00	0.1000E+03	0.6300E+00	0.1130E+00	15.206	3.000
R3 NO. 2	2	10	4536	0.0273E+00	0.2805E+03	0.5100E+00	0.1505E+00	40.036	0.503
DUANE MODEL GROUND SYSTEM SYSTEM-RAIDAR FIELD									
	SYSTMO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	16	24	2513	0.5005E+00	0.1220E+02	0.4460E+00	0.5300E+01	16.706	0.053
R1 NO. 2	11	170	6751	0.0000E+00	0.3000E+01	0.0253E+00	0.3221E+00	11.032	0.100
R1 NO. 3	12	170	24004	0.0000E+00	0.1304E+03	0.0030E+00	0.1202E+00	10.020	1.044
R1 NO. 4	11	244	7009	0.5577E+00	0.4112E+00	0.5125E+00	0.1160E+01	19.546	0.100
R1 NO. 5	11	114	4302	0.4316E+00	0.7511E+01	0.3006E+00	0.1024E+01	24.520	0.035
R1 NO. 6	12	140	10304	0.7051E+00	0.1529E+02	0.6274E+00	0.7537E+00	12.624	0.032
R1 NO. 7	12	57	9165	0.5000E+00	0.0004E+01	0.4702E+00	0.6650E+01	12.472	0.033
R1 NO. 8	11	200	7574	0.6610E+00	0.2500E+01	0.5906E+00	0.6307E+00	13.017	0.390
DUANE MODEL GROUND SYSTEM SYSTEM-RAIDAR IN-HOUSE									
	SYSTMO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	1	14	2076	0.7300E+00	0.5000E+02	0.4066E+00	0.1330E+00	26.301	0.103
R3 NO. 2	1	53	5005	0.7450E+00	0.2044E+02	0.6172E+00	0.1306E+00	14.431	0.223

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TABLE 4.3 (Continued)

DUANE MODEL									
GROUND SYSTEM									
SYSTEM-MICROWAVE									
IN-HOUSE									
SI	NO. 1	5	34	1122	P1	P2	P3	P4	RE
					0.9110E+00	0.2330E+02	0.7174E+00	0.1920E+00	0.602
								21.310	

PROJ
CORE
GND

TABLE 4.3 (Continued)

 IBM MODEL
 GROUND SYSTEM
 ANTENNA
 FIELD

	SYND	NO.	FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R1 NO. 1	12	7	10304	0.1392E-02	0.3061E+01	0.7466E-03			50.730	3.500
R1 NO. 2	12	3	20004	0.1029E-02	0.1109E+02	0.7710E-03			90.045	5.205
R1 NO. 3	5	9	3032	0.1455E-10	0.8604E+01	0.2340E-02			11.976	0.015
R1 NO. 4	5	6	7124	0.2067E-03	0.4320E+01	0.2245E-02			11.742	0.010
R1 NO. 7	5	4	2663	0.1494E-02	0.1123E+03	0.1767E-00			12.019	1.553
R1 NO. 8	5	7	407	0.1906E-01	0.1526E-04	0.1263E-02			30.000	1.230
R1 NO. 9	4	10	42000	0.3403E-03	0.6046E+00	0.4160E-02			10.103	0.241
R1 NO. 10	4	14	40000	0.1455E-10	0.1416E+02	0.5902E-04			15.715	0.055
R1 NO. 11	4	23	47900	0.3796E-03	0.8367E+01	0.1520E-03			12.220	0.700
R1 NO. 12	4	41	46860	0.9037E-03	0.2023E+03	0.2320E-09			32.315	1.000
R1 NO. 13	4	73	46050	0.0420E-03	0.3302E+02	0.6603E-04			11.270	1.001
R1 NO. 14	4	13	51440	0.2168E-03	0.1526E+04	0.1000E-02			24.190	1.300
R1 NO. 15	4	20	31790	0.5437E-03	0.9035E+01	0.5063E-03			19.026	0.320
R1 NO. 16	4	33	10240	0.1489E-10	0.3800E+02	0.1360E-03			16.793	1.007
R1 NO. 17	4	35	33600	0.1022E-02	0.1526E-04	0.1213E-02			14.076	1.304
R1 NO. 19	4	61	32800	0.1463E-02	0.8415E+01	0.7342E-03			11.535	0.111
R1 NO. 20	4	00	42006	0.1455E-10	0.1090E+03	0.4040E-04			11.760	0.014
R1 NO. 21	4	22	35400	0.6631E-03	0.3630E-11	0.5321E-03			19.765	1.230

TABLE 4.3 (Continued)

IBM MODEL
GROUND SYSTEM
ANTENNA
IN HOUSE

RS NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	122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TABLE 4.3 (Continued)

IBM MODEL GROUND SYSTEM RADAR IN-MOUSE									
RS NO.	1	20	6369	0.2676E-03	0.2900E+02	0.3600E-03	P3	P4	RE
RS NO. 1	1	20	6369	0.2676E-03	0.2900E+02	0.3600E-03			20.434
RS NO. 3	10	10	3022	0.1373E-02	0.3177E+01	0.2090E-01			72.593
RS NO. 4	10	12	5370	0.0739E-02	0.1511E+01	0.1270E-01			60.666
RS NO. 5	10	11	4650	0.0590E-02	0.4101E+00	0.2720E-01			50.179
									7.024

FILE
PROOF
CORR
END

TABLE 4.3 (Continued)

 IOM MODEL
 GROUND SYSTEM
 MICROM AVE
 FIELD

RI NO.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SYNO	4	4	4	4	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4
NO.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FAIL	259	240	103	10	40	26	42	45	4	26	302	283	173	251	149	102	160	420	
HOURS	4000	4700	4670	407	2663	1373	7124	3032	161	2767	42610	32000	24920	33600	10200	41700	51000	40300	
P1	0.6725E-02	0.4704E-02	0.5805E-02	0.2010E-01	0.3553E-10	0.1475E-01	0.2153E-02	0.7105E-10	0.2007E-01	0.5960E-07	0.1025E-01	0.9460E-02	0.4595E-02	0.9325E-02	0.1125E-01	0.3121E-02	0.1455E-10	0.2300E-02	
P2	0.0615E+02	0.5270E+02	0.6026E+02	0.5163E+01	0.0105E+02	0.1526E+00	0.2500E+02	0.6330E+02	0.3520E+00	0.3013E+02	0.7081E+02	0.7037E+02	0.5304E+02	0.0621E+02	0.1326E+00	0.1163E+02	0.2001E+03	0.3560E+03	
P3	0.2033E+00	0.3010E+00	0.2052E+00	0.1210E+00	0.2190E+03	0.1100E+02	0.1002E+02	0.0103E+03	0.2772E+02	0.0770E+03	0.2345E+00	0.2940E+00	0.2320E+00	0.3346E+00	0.2320E+00	0.5660E+03	0.3366E+00	0.5019E+00	
PC																			
REAR	50.237	03.050	56.191	20.263	16.737	25.443	9.400	10.070	36.763	10.005	26.790	62.130	30.256	10.507	02.266	10.790	12.700	7.171	
RE	2.105	1.706	2.275	1.177	1.343	1.317	0.076	0.700	2.010	0.390	1.235	1.000	1.511	1.351	2.150	0.657	0.197	0.440	

TABLE 4.3 (Continued)

IBM MODEL GROUND SYSTEM MICROWAVE IN-HOUSE						
RI NO. 1	5	33	1122	0.2020E-01	0.4570E-04	0.2320E-09
SYSD NO, FAIL	HOURS	P1	P2	P3	P4	RE
						31,605
						1,222

IBM MODEL GROUND SYSTEM DISPLAY FIELD						
RI NO. 1	11	34	11490	0.4507E-02	0.2635E+02	0.1341E-02
SYSD NO, FAIL	HOURS	P1	P2	P3	P4	RE
						50,342
						1,021
RI NO. 2	11	17	4302	0.1320E-01	0.1939E+03	0.5601E-03
						81,524
						3,565
RI NO. 3	12	30	10304	0.3690E-03	0.3155E+01	0.5805E-03
						204,006
						70,441
RI NO. 5	12	4	714	0.2320E-09	0.1961E+03	0.8139E-04
						98,003
						1,533
RI NO. 6	11	49	9663	0.3004E-02	0.1326E-04	6.1213E-02
						122,359
						28,767
RI NO. 7	11	117	10009	0.1059E-10	0.4239E+02	0.1590E-03
						137,458
						70,317
RI NO. 9	11	177	7849	0.2939E-02	0.1470E+02	0.7009E-02
						307,492
						67,635

ICR MODEL
CROSS
DISPLAY
FIELD
SYSTEM

RYRNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RRR	RE
R2	NO. 1	8	15	9825	0.5598E-03	0.1146E+02	0.8974E-03	22.840	0.506
R2	NO. 2	8	7	8286	0.8819E-03	0.1892E+01	0.1101E-02	27.778	0.302
R2	NO. 3	8	16	7570	0.1665E-02	0.1926E-04	0.1191E-02	117.087	12.913
R2	NO. 4	8	11	9825	0.1050E-02	0.5628E+01	0.2792E-03	36.201	7.367
R2	NO. 5	8	15	48376	0.1028E-03	0.1006E+02	0.2890E-03	10.333	0.069
R2	NO. 6	8	4	22837	0.1458E-10	0.4109E+01	0.2819E-03	7.829	0.015
R2	NO. 8	8	17	8079	0.1338E-02	0.1993E+01	0.7895E-02	26.267	2.015
R2	NO. 9	8	18	11916	0.6038E-03	0.1082E+01	0.1608E-02	101.015	182.531
R2	NO. 10	8	14	48314	0.3008E-03	0.1406E+01	0.4696E-02	7.504	0.169
R2	NO. 19	8	9	48376	0.5808E-04	0.7595E+01	0.1096E-03	20.021	6.005
R2	NO. 20	8	6	33320	0.5622E-03	0.1926E-04	0.4441E-15	17.639	1.380
R2	NO. 22	8	16	45477	0.2519E-03	0.5560E+01	0.1997E-02	9.311	0.012

IN MODEL SYSTEM
UNPLAY
FIELD

	SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	17	5		3700	0.2567E+02	0.1526E+00	0.0163E+16		192.470	1.563
R3 NO. 2	2	12		6336	0.4121E+03	0.9023E+01	0.0306E+03		9.993	0.121
R3 NO. 3	2	0		4576	0.1360E+02	0.3400E+01	0.2407E+02		26.916	0.059

TABLE 4.3 (continued)

IBM MODEL
GROUND SYSTEM
DISPLAY
IN-MOUSE

RS NO.	RS NO.	NO. FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
RS NO. 1	0	105	2700	0.2500E-02	0.9817E+02	0.2693E-02		5.379	0.011
RS NO. 2	0	100	3200	0.9932E-02	0.6413E+02	0.3050E-02		2.576	0.002
RS NO. 3	0	50	3700	0.6600E-02	0.3559E+02	0.4109E-02		30.021	0.100
RS NO. 4	0	33	3700	0.2407E-03	0.3070E+02	0.6276E-02		20.149	0.203
RS NO. 5	0	16	2500	0.3202E-02	0.7459E+01	0.2243E-02		12.017	0.260

IBM MODEL
GROUND SYSTEM
DISPLAY
IN-MOUSE

RS NO.	RS NO.	NO. FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
RS NO. 1	7	17	2193	0.1000E-01	0.1526E+00	0.1491E-02		127.396	2.136
RS NO. 2	7	32	2200	0.2616E-02	0.2407E+02	0.1073E-02		23.097	0.700
RS NO. 3	7	12	3322	0.2613E-02	0.1991E+02	0.0510E-04		21.606	1.229
RS NO. 4	2	304	3613	0.2320E-00	0.5937E+03	0.6370E-03		5.076	0.325
RS NO. 5	2	211	4936	0.5450E-01	0.1101E+03	0.1300E-16		19.119	1.301
RS NO. 6	1	6	4659	0.3612E-02	0.3652E+00	0.1507E-02		20.762	1.500
RS NO. 7	1	21	6164	0.2320E-00	0.3041E+02	0.1527E-03		10.351	1.931

TABLE 4.3 (Continued)

IBM MODEL
GROUND SYSTEM
COMPUTER
FIELD

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	ROAR	RE
R1 NO. 1	11	34	11490	0.9960E-02	0.5600E+02	0.5223E-03			77,341	4,508
R1 NO. 2	11	33	5703	0.1057E-01	9.2038E+02	0.4375E-02			47,860	0,909
R1 NO. 3	12	16	9165	0.3203E-02	0.7900E+01	0.1271E-02			65,029	1,728
R1 NO. 4	15	19	11000	0.3230E-02	0.1320E+04	0.1293E-02			23,600	5,009
R1 NO. 7	15	9	11209	0.9008E-12	0.2991E+02	0.3331E-04			73,126	5,479
R1 NO. 8	15	7	10642	0.6900E-03	0.1624E+01	0.3500E-02			63,350	17,026
R1 NO. 9	15	9	16192	0.1455E-10	0.1400E+02	0.1506E-03			45,450	8,226
R1 NO. 10	15	19	23495	0.5030E-03	0.2000E+01	0.8030E-03			10,049	0,194
R1 NO. 13	15	20	15796	0.1130E-02	0.9032E+01	0.8075E-03			32,217	10,170
R1 NO. 14	15	14	13960	0.1455E-10	0.4333E+02	0.7167E-04			46,005	95,050
R1 NO. 15	15	34	23600	0.4503E-02	0.2954E+01	0.2214E+00			64,340	0,607
R1 NO. 16	11	35	10323	0.1010E-01	0.6010E+02	0.3560E-02			84,040	19,402
R1 NO. 17	12	41	24504	0.4370E-02	0.1926E+04	0.9534E-03			50,505	4,934
R1 NO. 18	11	36	9023	0.1527E-01	0.1307E+03	0.9004E-03			92,270	20,720
R1 NO. 19	11	35	12141	0.6332E-02	0.1471E+02	0.1000E-02			64,672	3,206

TABLE 4.3 (Continued)

IOM MODEL GROUND SYSTEM COMPUTER FIELD									
	SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	17	10	3065	0.7900E-02	0.0110E+01	0.1203E-01		80,460	1,904
R3 NO. 2	2	16	4576	0.2619E-02	0.0038E+01	0.1095E-01		12,600	0,032
R3 NO. 3	2	9	6336	0.1406E-02	0.1650E+01	0.2100E-03		9,323	1,006

IOM MODEL GROUND SYSTEM COMPUTER IN-HOUSE									
	SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	11	46	4467	0.2320E-09	0.2051E+02	0.3623E-02		30,172	1,000
R1 NO. 2	14	12	2043	0.3601E-02	0.1526E-04	0.1200E-02		2002,302	16,743
R1 NO. 3	14	43	11189	0.3369E-02	0.1390E+01	0.4630E-02		24,227	3,364
R1 NO. 5	16	9	2792	0.1804E-01	0.1526E-04	0.2004E-03		73,006	39,870

IOM MODEL GROUND SYSTEM COMPUTER IN-HOUSE									
	SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 1	13	10	1540	0.1330E-02	0.3125E+01	0.1250E-01		107,200	60,421

TABLE 4.3 (Continued)

 IBM MODEL
 GROUND SYSTEM
 COMPUTER
 IN-HOUSE

	SYBNO	NO, FAIL	MOURS	P1	P2	P3	P4	MOAR	RE
R3 NO. 1	9	10	1726	0.1191E-01	0.1926E-04	0.1602E-02		4550.773	1.557
R3 NO. 2	9	25	2261	0.5960E-07	0.5434E+02	0.2192E-02		41.102	0.735
R3 NO. 4	9	3	3105	0.6726E-03	0.8120E+01	0.5950E-03		257.963	457.616
R3 NO. 5	2	74	3415	0.5960E-07	0.8373E+02	0.7092E-03		3.347	0.035
R3 NO. 6	2	67	4536	0.3211E-03	0.6017E+02	0.8175E-03		10.620	0.313
R3 NO. 7	1	5	8513	0.6750E-03	0.2860E+01	0.2439E-03		22.429	1.661
R3 NO. 8	1	4	6330	0.8350E-03	0.1926E-04	0.1110E-15		10.726	1.003

TABLE 4.3 (Continued)

IBM MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSD	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	4	14	35400	0.5201E-03	0.4123E+02	0.1104E-09		20,600	1,090
R1	NO. 3	4	11	51400	0.2299E-03	0.9597E-06	0.1777E-02		7,370	1,202
R1	NO. 4	4	11	41700	0.2000E-03	0.1520E-04	0.1005E-02		32,052	1,500
R1	NO. 5	4	14	33600	0.5218E-03	0.1520E-04	0.1107E-02		16,307	1,416
R1	NO. 6	4	14	74920	0.6027E-03	0.9095E-11	0.6077E-02		27,415	1,000
R1	NO. 7	4	14	32000	0.3630E-03	0.3070E+01	0.5033E-03		11,950	0,135
R1	NO. 8	4	98	42000	0.2293E-02	0.3097E+01	0.2007E-02		22,050	0,500
R1	NO. 9	4	4	46020	0.9095E-12	0.4302E+01	0.1000E-03		12,173	0,249
R1	NO. 10	4	14	47900	0.5050E-03	0.1520E-04	0.6713E-01		29,025	1,332
R1	NO. 11	4	23	46000	0.2700E-11	0.4200E+02	0.1007E-04		15,173	1,277

IBM MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSD	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3	NO. 1	2	20	3615	0.9095E-12	0.1366E+03	0.5920E-04		7,140	1,026
R3	NO. 2	2	10	4536	0.2547E-02	0.3403E+01	0.1455E-10		05,000	1,225

TABLE 4.3 (Continued)

IBM MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

	SYBNO	NO,FAIL	HOURS	P1	P2	P3	P4	RDAR	RE
R1 NO. 2	11	170	6751	0.4421E-02	0.0031E+01	0.6056E-03		477,150	100,376
R1 NO. 4	11	240	7049	0.0941E-02	0.1007E+03	0.1076E-02		22,312	0,004
R1 NO. 5	11	110	4302	0.4907E-02	0.1526E-04	0.1325E-02		2517,703	260,120
R1 NO. 6	12	140	10300	0.5021E-10	0.3554E+02	0.1191E-03		330,250	203,740
R1 NO. 7	12	57	9145	0.1023E-03	0.6002E+01	0.3406E-02		360,354	102,546
R1 NO. 8	11	200	7376	0.1692E-02	0.1504E+02	0.1496E-02		400,000	300,023

IBM MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

	SYBNO	NO,FAIL	HOURS	P1	P2	P3	P4	RDAR	RE
R3 NO. 1	1	10	2076	0.7180E-02	0.1504E+01	0.3006E-01		10,616	0,100
R3 NO. 2	1	53	5005	0.1055E-10	0.0903E+02	0.1910E-03		31,106	0,303

IBM MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

	SYBNO	NO,FAIL	HOURS	P1	P2	P3	P4	RDAR	RE
R1 NO. 1	5	30	1122	0.2717E-01	0.2071E+01	0.3260E-01		13,764	0,343

TABLE 4.3 (Continued)
IOM MODEL
GROUND SYSTEM
FIELD - MICROMAVE

	SYNO	NO, FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	5	17	407	0.4333E-01	0.6900E+02	0.3730E+00		19,730	1,102
R1 NO. 2	5	50	3431	0.3940E-07	0.6275E+02	0.6050E-03		6,321	0.123
R1 NO. 3	5	32	1373	0.1910E-01	0.1520E+04	0.1202E-02		25,007	1,302
R1 NO. 4	5	40	7124	0.2206E-02	0.2030E+02	0.1213E-02		9,051	0.092
R1 NO. 5	5	40	2602	0.1002E-01	0.1005E+02	0.2320E-00		10,562	1,070
R1 NO. 6	4	135	42076	0.0000E-03	0.1007E+03	0.2230E-00		5,730	0.576
R1 NO. 7	4	323	6056	0.0290E-02	0.7666E+02	0.5021E-10		43,224	2,032
R1 NO. 8	4	299	47096	0.3034E-02	0.5203E+02	0.2300E-00		56,000	1,500
R1 NO. 9	4	201	46700	0.5313E-02	0.7102E+02	0.3019E-00		50,535	2,221
R1 NO. 10	5	5	101	0.3940E-07	0.6977E+01	0.0197E-02		7,093	0.320
R1 NO. 11	5	20	2107	0.3940E-07	0.3039E+02	0.0074E-03		15,167	0.025
R1 NO. 13	4	477	42610	0.1910E-01	0.7972E+02	0.2749E-00		21,072	1,700
R1 NO. 14	4	360	32000	0.1170E-01	0.0450E+02	0.2031E-00		50,946	1,920
R1 NO. 15	4	203	20020	0.0731E-02	0.5021E+02	0.2320E-00		20,190	1,021
R1 NO. 16	4	302	33600	0.5021E-10	0.5701E+03	0.2360E-00		0,501	0,000
R1 NO. 17	4	101	41794	0.3020E-02	0.1374E+02	0.6250E-03		10,010	0,609
R1 NO. 18	4	100	51440	0.1053E-10	0.2576E+03	0.2565E-00		12,486	0,205
R1 NO. 19	4	546	46040	0.5002E-13	0.5500E+03	0.4062E-00		9,006	0,702
R1 NO. 20	4	100	10240	0.1370E-01	0.7603E+02	0.2021E-00		30,731	2,064

TABLE 4.3 (Continued)
EXPERIMENTAL MODEL
GROUND SYSTEM
FIELD

RI NO.	NO.	SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	12	7	10304	0.6070E+03	0.1000E+00	0.1000E+00	0.1000E+00		52.000	2.650
R1	NO. 2	12	3	20004	0.5003E+03	0.8093E+00	0.8720E+04			90.550	5.250
R1	NO. 4	5	9	3032	0.8630E+00	0.9055E+00	0.1209E+04			12.002	0.015
R1	NO. 5	5	6	1373	0.1030E+03	0.1010E+01	0.6736E+02			3.443	0.020
R1	NO. 6	5	6	7124	0.6607E+03	0.1326E+00	0.1000E+01			146.704	1.200
R1	NO. 7	5	6	2663	0.5255E+03	0.1000E+00	0.1000E+00			12.990	1.500
R1	NO. 8	5	7	407	0.5613E+02	0.9760E+00	0.2004E+01			13.254	0.400
R1	NO. 9	4	10	4200	0.2452E+04	0.1000E+00	0.1000E+00			31.046	1.003
R1	NO. 10	4	14	4680	0.2204E+04	0.1030E+00	0.1000E+00			37.160	1.003
R1	NO. 11	4	23	4700	0.1390E+04	0.1000E+00	0.1000E+00			23.041	1.000
R1	NO. 12	4	41	4680	0.0633E+03	0.1000E+00	0.1000E+00			29.340	1.026
R1	NO. 13	4	73	4680	0.3102E+03	0.1000E+00	0.1000E+00			19.711	1.010
R1	NO. 14	4	13	5140	0.0601E+04	0.1000E+00	0.1000E+00			52.552	1.091
R1	NO. 15	4	20	3170	0.1115E+04	0.1000E+00	0.1000E+00			50.340	1.030
R1	NO. 16	4	33	10240	0.3629E+03	0.1000E+00	0.1000E+00			31.292	1.032
R1	NO. 17	4	35	3360	0.1095E+04	0.1000E+00	0.1000E+00			14.232	1.030
R1	NO. 18	4	14	24920	0.1200E+04	0.1000E+00	0.1000E+00			22.090	1.003
R1	NO. 19	4	41	3200	0.6436E+03	0.1000E+00	0.1000E+00			40.172	1.017
R1	NO. 20	4	80	4200	0.3169E+03	0.1000E+00	0.1000E+00			9.567	1.013
R1	NO. 21	4	22	3540	0.1005E+04	0.1000E+00	0.1000E+00			27.902	1.050

TABLE 4.3 (Continued)

EXPERIMENTAL MODEL GROUND SYSTEM ANTENNA IN-HOUSE									
RS NO.	1	2	3	4	5	6	7	8	9
SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	1	4	3030	0.0270E+00	0.0000E+00	0.5500E+00	6.321	0.002
R1	NO. 2	1	3	5005	0.4637E+03	0.2187E+01	0.1000E+00	15.223	0.220
R1	NO. 3	10	4	3022	0.6557E+03	0.0007E+02	0.0555E+01	220.260	0.192

EXPERIMENTAL MODEL
GROUND
RADAR
FIELD

RS NO.	1	2	3	4	5	6	7	8	9
SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	10	16	2513	0.3363E+04	0.1000E+00	0.1000E+00	9003.195	5210.002
R1	NO. 2	12	99	20004	0.1003E+03	0.0007E+00	0.4791E+04	70.044	29.271
R1	NO. 3	11	70	6751	0.0000E+02	0.1000E+00	0.1000E+00	179.150	2.555
R1	NO. 5	12	6	714	0.6900E+03	0.0003E+00	0.5055E+04	13.653	1.673
R1	NO. 6	12	77	10304	0.1030E+03	0.1000E+00	0.1000E+00	29.750	4.700
R1	NO. 7	11	71	4302	0.5272E+03	0.0200E+00	0.7723E+04	400.140	30.005
R1	NO. 8	11	120	7574	0.3472E+03	0.0001E+00	0.4115E+03	307.002	100.200

TABLE 4.3 (Continued)

EXPERIMENTAL MODEL
GROUND SYSTEM
RADAR
IN-MOUSE

	SYNO	NO, FAIL	HOURS	P1	P2	P3	P4	NOAR	RE
R3 NO, 1	1	20	6369	0.2459E+03	0.7029E+00	0.2556E+03		16,400	0.003
R3 NO, 3	10	10	3022	0.5501E+03	0.9035E+00	0.4730E+03		75,000	7,399
R3 NO, 4	10	12	5370	0.1710E+03	0.7079E+02	0.1000E+00		72,392	0.013
R3 NO, 5	10	11	4650	0.2072E+03	0.1000E+00	0.1000E+00		59,330	7,150

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TABLE 4.3 (Continued)

EXPERIMENTAL MODEL
GROUND SYSTEM
MICROWAVE
FIELD

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RDAR	RE
R1 NO, 1	4	114	42070	0.3382E+03	0.1000E+00	0.1000E+00		10,316	1,009
R1 NO, 3	4	240	47099	0.2582E+03	0.8076E+00	0.4020E-04		12,241	0.074
R1 NO, 5	5	10	407	0.3904E+02	0.8110E+00	0.2203E-01		10,353	0.927
R1 NO, 6	5	40	2663	0.6241E+02	0.7885E+01	0.1000E+00		13,307	0.892
R1 NO, 7	5	26	1373	0.9812E+02	0.1000E+00	0.1000E+00		43,320	1,042
R1 NO, 8	5	42	7124	0.6000E+02	0.1000E+00	0.4516E+02		47,562	1,025
R1 NO, 9	5	45	3012	0.5073E+02	0.5960E+07	0.8344E-01		16,599	1,026
R1 NO, 11	5	26	2767	0.1192E+03	0.6290E+00	0.6317E-03		13,972	0,279
R1 NO, 12	4	147	35000	0.2800E+03	0.1000E+00	0.1000E+00		13,951	1,007
R1 NO, 13	4	302	42610	0.8350E+02	0.1000E+00	0.1000E+00		17,593	1,000
R1 NO, 14	4	203	32800	0.7690E+02	0.5900E+07	0.8066E-01		36,601	1,000
R1 NO, 16	4	251	33600	0.9679E+02	0.1000E+00	0.1709E+03		14,303	1,005
R1 NO, 17	4	149	10240	0.6044E+02	0.5960E+07	0.7050E-01		20,730	1,007
R1 NO, 18	4	142	41790	0.2577E+03	0.1000E+00	0.1000E+00		32,700	1,132
R1 NO, 19	4	160	51440	0.4007E+03	0.7240E+00	0.1949E-04		9,200	0,125

TABLE 4.3 (Continued)

EXPERIMENTAL MODEL									
GROUND SYSTEM									
MICROPROCESSOR									
IN-HOUSE									
R1 NO. 1	5	33	1122	0.3697E+02	0.6000E+00	0.4302E-02	P4	RDAR	RE
								12,087	0,270

EXPERIMENTAL MODEL									
GROUND SYSTEM									
FIELD									
R1 NO. 1	11	36	1100	0.4667E+02	0.5900E-07	0.550E-01	P4	RDAR	RE
								53,911	2,211
R1 NO. 3	12	30	10308	0.9756E+03	0.1000E+00	0.1000E+00		200,746	47,967
R1 NO. 5	12	4	710	0.1000E+03	0.7030E+00	0.3200E-04		92,550	1,030
R1 NO. 6	11	49	9663	0.3657E+03	0.1000E+00	0.1000E+00		156,913	63,905
R1 NO. 7	11	117	10009	0.2000E+03	0.1000E+00	0.1000E+00		110,612	46,496
R1 NO. 9	11	177	7849	0.2160E+03	0.9603E+00	0.2915E-03		322,100	67,020

TABLE 4.3 (Continued)
EXPERIMENTAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

R2 NO.	SVNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RDAR	RE
R2 NO. 1	0	15	9425	0.2975E+03	0.1000E+00	0.1000E+00	0.1000E+00		10.020	1.737
R2 NO. 2	0	7	0246	0.0252E+03	0.1000E+00	0.1000E+00	0.1000E+00		102.733	2.000
R2 NO. 3	0	16	7570	0.7246E+03	0.1000E+00	0.1000E+00	0.1000E+00		161.963	20.000
R2 NO. 4	0	11	9425	0.5663E+03	0.1000E+00	0.1000E+00	0.1000E+00		30.027	0.310
R2 NO. 5	0	15	45376	0.0045E+03	0.1000E+00	0.1000E+00	0.1000E+00		40.032	1.077
R2 NO. 6	0	4	22037	0.2640E+04	0.1000E+00	0.1000E+00	0.1000E+00		50.210	1.500
R2 NO. 7	0	9	45050	0.1309E+04	0.1000E+00	0.1000E+00	0.1000E+00		23.000	1.103
R2 NO. 8	0	17	0079	0.7000E+03	0.1000E+00	0.1000E+00	0.1000E+00		22.000	1.000
R2 NO. 9	0	10	11916	0.1469E+04	0.1000E+00	0.1000E+00	0.1000E+00		100.003	300.002
R2 NO. 13	0	14	40314	0.1065E+04	0.1000E+00	0.1000E+00	0.1000E+00		72.050	1.003
R2 NO. 19	0	9	45376	0.1004E+04	0.1000E+00	0.1000E+00	0.1000E+00		53.101	1.103
R2 NO. 20	0	6	33320	0.1927E+04	0.1000E+00	0.1000E+00	0.1000E+00		19.597	1.230
R2 NO. 22	0	16	45077	0.3162E+04	0.0500E+00	0.0500E+00	0.0206E+04		9.031	0.011
R2 NO. 23	0	10	45261	0.3100E+04	0.1000E+00	0.1000E+00	0.1000E+00		30.354	1.125

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TABLE 4.3 (Continued)

EXPONENTIAL MODEL GROUND SYSTEM DISPLAY FIELD									
SVSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE	
R3 NO. 1	17	5	3704	0.4035E+03	0.9349E+00	0.4032E+01	176.063	1.045	
R3 NO. 2	2	12	6336	0.2071E+03	0.1000E+00	0.1000E+00	32.016	1.100	
R3 NO. 3	2	0	4576	0.2091E+03	0.4371E+01	0.4202E+01	35.005	0.709	
EXPONENTIAL MODEL GROUND SYSTEM DISPLAY IN-MOUSE									
SVSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE	
R2 NO. 2	0	100	3200	0.1799E+03	0.9782E+00	0.5767E+00	5.030	0.000	
R2 NO. 3	0	50	3700	0.1200E+03	0.9261E+00	0.2535E+03	0.630	0.011	
EXPONENTIAL MODEL GROUND SYSTEM DISPLAY IN-MOUSE									
SVSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE	
R3 NO. 1	7	17	2193	0.1700E+03	0.0009E+00	0.5375E+03	14.059	0.060	
R3 NO. 2	7	32	2240	0.6110E+02	0.2274E+01	0.1000E+00	31.416	0.062	
R3 NO. 3	7	12	3322	0.3040E+03	0.1000E+00	0.1000E+00	35.270	1.100	
R3 NO. 5	2	211	4536	0.2190E+02	0.9110E+02	0.3462E+02	26.027	1.309	
R3 NO. 6	1	0	4659	0.3092E+03	0.1000E+00	0.1000E+00	41.025	1.250	
R3 NO. 7	1	21	6104	0.2294E+03	0.1000E+00	0.1000E+00	13.717	1.053	

TABLE 4.3 (Continued)
EXPERIMENTAL MODEL
GROUND SYSTEM
COMPUTER
FIELD

	SYNO	NO. FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R1 NO. 1	11	34	11400	0.4241E+02	0.1000E+00	0.1000E+00		75,200	4,963
R1 NO. 2	11	33	5703	0.7640E+02	0.0945E+00	0.3240E-03		44,985	0.910
R1 NO. 3	12	16	9165	0.1730E+03	0.1000E+00	0.1000E+00		111,510	2,250
R1 NO. 4	15	19	11000	0.3540E+03	0.1000E+00	0.1000E+00		15,795	2,340
R1 NO. 5	12	35	10304	0.2007E+03	0.1000E+00	0.1000E+00		62,612	1,069
R1 NO. 7	15	9	11209	0.1502E+04	0.1000E+00	0.1000E+00		100,011	11,936
R1 NO. 8	15	7	10642	0.1103E+04	0.1000E+00	0.1000E+00		66,075	17,804
R1 NO. 9	15	9	16192	0.6965E+03	0.1000E+00	0.1000E+00		51,570	0.760
R1 NO. 10	15	19	23495	0.1211E+04	0.1000E+00	0.1000E+00		31,566	1,192
R1 NO. 11	15	10	19741	0.7720E+03	0.1000E+00	0.1000E+00		16,419	1,064
R1 NO. 12	15	17	23572	0.7620E+03	0.1000E+00	0.1000E+00		35,102	6,060
R1 NO. 13	15	20	15756	0.5613E+03	0.1000E+00	0.1000E+00		29,991	5,522
R1 NO. 14	15	16	13060	0.4130E+03	0.1000E+00	0.1000E+00		45,700	88,753
R1 NO. 15	15	30	23600	0.1724E+03	0.9702E+00	0.1400E-02		60,854	9,006
R1 NO. 16	11	35	10323	0.7640E+02	0.0909E+00	0.1536E-03		80,660	19,323
R1 NO. 17	12	41	26004	0.2414E+03	0.1000E+00	0.1000E+00		56,143	4,671
R1 NO. 18	11	36	9033	0.3809E+03	6.9791E+00	0.0400E-05		92,135	24,707
R1 NO. 19	11	35	12141	0.9425E+02	0.0520E+00	0.5163E-03		66,111	3,463

TABLE 4.3 (Continued)

EXPERIMENTAL MODEL
GROUND SYSTEM
COMPUTER
FIELD

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	17	10	3963	0.1002E+03	0.0790E+00	0.1001E+02			01,393	1,056
R3 NO. 2	2	16	4876	0.2669E+03	0.9573E+00	0.7302E+03			13,047	0,029
R3 NO. 3	2	9	6336	0.7190E+03	0.1000E+00	0.1000E+00			11,000	1,143

EXPERIMENTAL MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 2	14	12	2043	0.3101E+03	0.1000E+00	0.1000E+00			2043,170	14,000
R1 NO. 3	14	43	11189	0.2120E+03	0.1000E+00	0.1000E+00			30,035	0,029
R1 NO. 5	14	9	2792	0.3901E+02	0.3900E+07	0.0100E+01			71,470	37,043

EXPERIMENTAL MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 1	13	10	1540	0.3070E+03	0.2373E+01	0.7379E+01			77,439	1307,531

TABLE 4.3 (Continued)
EXPERIMENTAL MODEL
GROUND SYSTEM
COMPUTER
INPUT-MOUSE

RS NO. 1	9	10	1726	0.4742E+02	0.5960E+07	0.8034E+01	2559,655	1,131
RS NO. 2	9	25	2261	0.1639E+02	0.1000E+00	0.1003E+03	17,400	1,227
RS NO. 4	9	3	3105	0.4013E+03	0.1000E+00	0.1000E+00	669,519	3121,370
RS NO. 6	2	67	4536	0.2099E+02	0.4002E+02	0.1577E+02	24,407	1,010
RS NO. 7	1	5	8513	0.1079E+04	0.1000E+00	0.1000E+00	30,429	1,333
RS NO. 9	1	4	6339	0.1371E+04	0.1000E+00	0.1000E+00	21,450	1,500

TABLE 4.3 (Continued)
EXPERIMENTAL MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

	SYSDO	NO,FAIL	HOURS	P1	P2	P3	P4	RSAR	RE
R1 NO. 1	4	14	35400	0.2012E+04	0.1000E+00	0.1000E+00		32.049	1.083
R1 NO. 2	4	25	45040	0.1017E+04	0.1000E+00	0.1000E+00		34.030	1.043
R1 NO. 3	4	11	51440	0.4557E+04	0.1000E+00	0.1000E+00		6.949	1.111
R1 NO. 4	4	11	41708	0.7969E+04	0.1000E+00	0.1000E+00		47.069	1.111
R1 NO. 5	4	16	33000	0.1041E+04	0.1000E+00	0.1000E+00		16.501	1.071
R1 NO. 6	4	16	24920	0.1616E+04	0.1000E+00	0.1000E+00		26.427	1.071
R1 NO. 7	4	16	32400	0.1599E+04	0.1000E+00	0.1000E+00		44.403	1.071
R1 NO. 8	4	95	42000	0.3066E+03	0.1000E+00	0.1000E+00		40.486	1.011
R1 NO. 9	4	4	46000	0.3090E+04	0.1000E+00	0.1000E+00		30.800	1.500
R1 NO. 10	4	26	47906	0.2621E+04	0.1000E+00	0.1000E+00		48.766	1.029
R1 NO. 11	4	23	46060	0.1638E+04	0.1000E+00	0.1000E+00		37.447	1.040

EXPERIMENTAL MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

	SYSDO	NO,FAIL	HOURS	P1	P2	P3	P4	RSAR	RE
R3 NO. 1	2	20	3415	0.1329E+03	0.1000E+00	0.3000E+02		7.027	0.897
R3 NO. 2	2	10	4536	0.4151E+03	0.1114E+01	0.2046E+02		19.467	0.211

TABLE 4.3 (Continued)

EXPERIMENTAL MODEL GROUND SYSTEM SYSTEM-RADAR FILE									
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
1	2	3	4	5	6	7	8	9	10
SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 2	11	170	6731	0.1523E+03	0.1000E+00	0.1000E+00	500,579	390,142
R1	NO. 3	12	2000	0.7001E+03	0.1000E+00	0.1000E+00	0.1000E+00	001,770	310,009
R1	NO. 4	11	7000	0.0310E+03	0.0000E+00	0.0000E+00	0.0000E+00	21,052	0,500
R1	NO. 5	11	4302	0.2022E+03	0.0010E+00	0.0010E+00	0.0010E+00	772,300	00,000
R1	NO. 6	12	10300	0.3523E+03	0.1000E+00	0.1000E+00	0.1000E+00	357,320	233,023
R1	NO. 8	11	7570	0.0070E+03	0.0101E+00	0.0101E+00	0.0101E+00	450,657	390,101

EXPERIMENTAL MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
1	2	3	4	5	6	7	8	9	10
SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3	NO. 1	1	10	2070	0.1252E+03	0.0030E+00	0.2001E+02	10,973	0,141
R3	NO. 2	1	5005	0.7490E+02	0.0025E+00	0.3030E+02	0.3030E+02	9,023	0,100

EXPERIMENTAL MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
1	2	3	4	5	6	7	8	9	10
SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	5	30	1122	0.3650E+02	0.0003E+00	0.3000E+02	12,627	0,291

TABLE 4.3 (Continued)

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TABLE 4.3 (Continued)

R1	NO. 1	12	7	10300	0.1256E+04	0.4000E+04	P3	P4	RBAR	RE
R1	NO. 2	12	3	30000	0.5396E+04	0.4675E+07			42.763	0.714
R1	NO. 3	5	3	2767	-0.0002E+02	-0.0000E+00			10.300	0.311
R1	NO. 4	5	0	3032	0.1600E+03	0.3047E+04			01.472	0.911
R1	NO. 5	5	6	1373	0.1030E+03	0.2003E+04			5.302	0.030
R1	NO. 6	5	6	7124	0.7000E+03	0.1487E+06			120.402	0.631
R1	NO. 7	5	0	2663	0.5191E+03	-0.0040E+04			12.053	1.497
R1	NO. 8	5	7	407	0.3000E+02	0.7532E+01			14.165	0.405
R1	NO. 9	4	10	42000	0.2700E+04	0.2600E+07			17.013	0.320
R1	NO.10	4	14	46000	0.2300E+04	0.0020E+06			36.717	1.075
R1	NO.11	4	23	47000	0.1675E+04	0.7037E+06			22.332	0.903
R1	NO.12	4	41	46000	0.6510E+03	-0.3003E+07			32.300	0.701
R1	NO.13	4	73	46000	0.6037E+03	-0.2070E+06			20.603	0.930
R1	NO.14	2	13	31400	-0.7150E+04	-0.0020E+09			43.717	0.423
R1	NO.15	4	20	31790	0.1221E+04	0.6310E+06			43.510	0.774
R1	NO.16	4	35	10200	0.3302E+03	-0.0001E+09			29.527	0.976
R1	NO.17	4	35	33600	0.1400E+04	-0.0030E+06			13.225	0.609
R1	NO.18	4	14	24920	0.0930E+03	-0.1030E+07			15.277	0.534
R1	NO.19	4	61	32000	0.4702E+03	0.1201E+06			36.221	0.773
R1	NO.20	4	80	42000	0.3210E+03	0.2101E+05			9.275	0.969
R1	NO.21	4	22	35000	0.0071E+03	-0.1310E+06			10.003	0.227

TABLE 4.3 (Continued)

LLOYD - LIPOM MODEL GROUND SYSTEM IN-HOUSE									
RS NO.	1	2	3	4	5	6	7	8	9
SVNO	NO.	FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R1	NO. 1	1	4	3030	0.3003E+03	0.1070E+05		03,133	0.715
R2	NO. 2	1	5	5065	0.4671E+03	0.3005E+04		10,103	0.216
R3	NO. 3	10	6	3022	0.1000E+03	-0.7000E+00		0,766	1,196
LLOYD - LIPOM MODEL GROUND SYSTEM FIELD									
RS NO.	1	2	3	4	5	6	7	8	9
SVNO	NO.	FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R1	NO. 1	10	16	2513	0.0701E+02	0.2002E+04		90,091	0.643
R2	NO. 2	12	40	3000	0.2351E+03	-0.3000E+05		0,524	0.300
R3	NO. 3	11	70	6751	0.0020E+02	0.5070E+03		79,610	0.707
R4	NO. 4	12	24	9105	0.1030E+03	0.2201E+05		26,630	0.023
R5	NO. 5	12	4	710	0.1010E+03	0.6101E+04		25,040	0.902
R6	NO. 6	12	77	10304	0.2090E+03	0.1177E+05		10,000	0.900
R7	NO. 7	11	71	4302	0.3205E+02	0.6115E+03		72,930	0.082
R8	NO. 8	11	120	7970	0.3030E+02	-0.3007E+00		20,050	0.951

TABLE 4.3 (Continued)
 LLOYD-LIPOM MODEL
 GROUND SYSTEM
 RADAR IN-HOUSE

TEST NO.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	SVENO	NO. FAIL	HOURS	P1	P2	P3	P4	RDAR	RE
23	1	1	20	3	3	6369	0.1342E+03	0.2237E+04					15.451	0.729
23	2	1	3	3	3	2276	0.3454E+03	0.8096E+04					25.927	0.440
23	3	10	10	10	10	3022	0.1810E+03	0.7300E+04					27.220	0.664
23	4	10	12	12	12	5370	0.7600E+02	0.2877E+07					9.251	0.107
23	5	10	11	11	11	4530	0.4010E+03	0.5527E+05					8.591	0.234

TABLE 4.3 (Continued)

LL OYD - L I P O M M O D E L
G R O U N D S Y S T E M
M I C R O W A V E
F I E L D

	SVSNO	NO. FAIL	HOURS	F1	P2	P3	P4	NOAR	RE
R1 NO. 1	4	114	42070	0.3420E+03	0.2272E+05			9.963	0.962
R1 NO. 2	4	259	46860	0.1110E+03	0.6100E+03			28.123	0.988
R1 NO. 3	4	240	47899	0.1572E+03	0.1336E+05			55.866	0.915
R1 NO. 4	4	183	46790	0.1223E+03	-0.1307E+04			21.100	1.005
R1 NO. 5	5	10	407	0.4007E+02	0.3703E+03			19.117	0.991
R1 NO. 6	5	60	2663	0.6390E+02	0.7379E+03			18.432	0.926
R1 NO. 7	5	26	1373	-0.2172E+02	-0.1021E+06			9.668	0.095
R1 NO. 8	5	42	7124	0.9131E+02	0.6330E+06			46.411	0.907
R1 NO. 9	5	45	3032	0.8200E+02	0.7663E+03			16.298	0.956
R1 NO. 10	5	4	161	0.3604E+02	0.3849E+03			18.711	0.545
R1 NO. 11	5	26	2767	0.8955E+02	0.3905E+04			28.197	0.603
R1 NO. 12	6	167	35800	0.2081E+03	-0.1297E+05			13.555	0.903
R1 NO. 13	4	302	42610	0.8300E+02	-0.1105E+05			17.487	0.902
R1 NO. 14	4	203	32800	0.7090E+02	0.4025E+04			36.450	0.964
R1 NO. 15	4	173	24920	0.1016E+03	0.2090E+04			23.277	0.991
R1 NO. 16	4	251	33680	0.9700E+02	-0.1050E+04			16.393	1.002
R1 NO. 17	4	149	18240	0.7962E+02	-0.2057E+04			20.211	0.953
R1 NO. 18	4	142	41790	0.2065E+03	0.5740E+05			30.930	0.938
R1 NO. 19	4	160	51440	0.1900E+03	0.2047E+05			22.794	0.835
R1 NO. 20	4	488	46834	0.4092E+02	-0.3540E+04			21.323	0.988

TABLE 4.3 (Continued)

R#	NO.	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
	1	5	33	1122	0.3496E+02	0.6105E+03			22,347	0.644

LLOYD-LIPSON MODEL										
GROUND SVS M										
DISPLAY										
FIELD										
	SYNO	NO.	PAIL	HOURS	P1	P2	P3	P4	ROAR	RE
R1	NO. 1	11	30	1100	0.1000E+03	0.1010E+05			01,739	0.002
R1	NO. 2	11	17	4302	0.1020E+03	0.0050E+04			60,125	0.027
R1	NO. 3	12	30	10300	0.3001E+03	0.3100E+05			21,900	0.001
R1	NO. 4	12	7	9165	0.4070E+03	0.2020E+05			200,899	1.001
R1	NO. 5	12	4	710	0.0710E+02	0.1000E+04			22,215	0.373
R1	NO. 6	11	49	9003	0.1500E+03	0.0100E+04			10,019	0.953
R1	NO. 7	11	117	10000	0.0007E+02	-0.2100E+05			0.001	0.321
R1	NO. 8	12	33	20004	0.3570E+03	-0.0311E+06			20,500	0.004
R1	NO. 9	11	177	7049	0.1090E+02	0.2030E+03			50,529	0.000

TABLE 4.3 (Continued)
 LLOYD-LIPOM MODEL
 GROUND SYSTEM
 DISPLAY
 FILE

R2 NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SYNO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FAIL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1	0.4557E+03	0.7001E+03	0.3320E+03	0.8009E+03	0.1096E+04	0.3099E+04	0.1492E+04	0.6191E+03	0.5030E+03	0.1472E+04	0.2203E+02	0.5007E+03	0.0200E+03	0.0530E+03	0.0339E+02	0.0702E+03	0.3099E+03	0.2091E+04	0.2017E+04	0.1732E+04
P2	0.0000E+05	0.1093E+06	0.4004E+05	0.1012E+06	0.9271E+06	0.4026E+07	0.5352E+06	-0.0262E+06	0.4032E+05	0.1930E+05	-0.1601E+07	0.0690E+05	0.1672E+06	0.1100E+06	-0.1017E+06	-0.7030E+05	-0.1200E+05	0.0350E+06	0.1702E+07	-0.9071E+06
P3																				
P4																				
RBAR	20.040	44.562	22.319	10.690	37.334	45.659	9.600	10.599	6.712	0.600	3.032	1.009	2.260	10.473	2.400	1.651	3.305	21.501	20.700	10.013
R2	0.030	0.036	0.045	0.771	0.039	0.011	0.339	0.727	0.060	1.053	0.032	0.010	0.030	0.783	0.025	0.601	0.007	0.360	0.526	1.167

TABLE 4.3 (Continued)

LL O V D - L I P O M M O D E L
G R O U N D S Y S T E M
D I S P L A Y
F I E L D
(C O N T I N U E D)

	SVSND	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO.21	0	3	45221	0.1120E+05	0.6793E+07			25,752	0.430
R2 NO.22	0	16	45077	0.1573E+06	0.3133E+06			159,760	0.665
R2 NO.23	0	10	45261	0.3507E+06	0.2271E+07			9,284	0.310

LL O V D - L I P O M M O D E L
G R O U N D S Y S T E M
D I S P L A Y
F I E L D

	SVSND	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	17	5	3706	0.7003E+03	0.3630E+05			75,305	0.530
R3 NO. 2	2	12	6336	0.3390E+03	0.0602E+05			30,732	0.832
R3 NO. 3	2	0	4976	0.2000E+03	0.1013E+05			40,212	0.607

TABLE 4.3 (Continued)

LLDVD - LIPOM MODEL
GROUND SYSTEM
DISPLAY
IN-MOUSE

R2 NO.	1	2	3	4	5
SYNO	0	0	0	0	0
NO.	1	2	3	4	5
FAIL	103	100	50	33	10
HOURS	2700	3200	3700	3700	2500
P1	0.700E+01	0.1370E+02	0.000E+02	0.0239E+02	0.1103E+03
P2	0.3201E+02	0.1110E+03	0.0000E+03	0.2642E+04	0.9700E+04
P3					
P4					
RE	37,010	70,530	05,001	119,731	31,100
RE	9,950	0,927	0,053	0,095	0,000

LLDVD - LIPOM MODEL
GROUND SYSTEM
DISPLAY
IN-MOUSE

R3 NO.	1	2	3	4	5	6	7
SYNO	7	7	7	2	2	1	1
NO.	1	2	3	4	5	6	7
FAIL	17	22	12	304	211	6	21
HOURS	2103	2240	3322	3415	4936	4659	6144
P1	0.7200E+02	0.6232E+02	0.1521E+03	0.3000E+01	0.2104E+02	-0.8201E+03	0.2171E+03
P2	0.1402E+04	0.5320E+03	-0.2030E+03	0.7000E+01	-0.5609E+03	-0.9528E+06	-0.1109E+05
P3							
P4							
RE	47,602	31,551	30,330	9,100	29,020	6,432	13,283
RE	0,660	0,059	0,020	0,005	0,990	0,025	0,043

TABLE 4.3 (Continued)
 LLOYD-LIPOM MODEL
 ROUND-SYSTEM
 COMPUTER
 FILED

	SYNO	NO,FAIL	HOURS	P1	P2	P3	P4	NOAR	RZ
R1 NO. 1	11	34	11490	0.2203E+03	0.2101E+05			35,060	0.726
R1 NO. 2	11	33	5703	0.9256E+02	0.2274E+04			191,109	0.001
R1 NO. 3	12	16	9165	0.4802E+03	0.2941E+05			70,701	9,402
R1 NO. 4	15	19	11800	0.3941E+03	-0.4075E+05			10,652	0.093
R1 NO. 5	12	35	10304	0.2353E+03	0.1669E+05			40,590	0.099
R1 NO. 6	16	5	2513	0.4322E+03	0.3730E+05			6,054	0.000
R1 NO. 7	15	9	11200	0.0302E+03	0.3040E+06			20,130	0.022
R1 NO. 8	15	7	10642	0.2900E+04	-0.3501E+07			10,533	0.993
R1 NO. 9	15	9	16192	0.1190E+04	-0.001E+07			12,373	0.500
R1 NO. 10	15	19	23495	0.1251E+04	0.5972E+06			19,496	0.475
R1 NO. 11	15	10	18741	0.6926E+03	-0.6132E+04			0.012	1,124
R1 NO. 12	15	17	23572	0.1312E+04	0.5224E+06			13,525	0.603
R1 NO. 13	15	20	15756	0.7240E+03	-0.2245E+06			10,372	0.703
R1 NO. 14	15	16	13660	0.7535E+03	-0.3370E+03			4,090	1,000
R1 NO. 15	15	34	23640	0.6030E+03	0.1532E+06			20,667	0.743
R1 NO. 16	11	35	10323	0.2195E+03	0.1567E+05			13,700	0.069
R1 NO. 17	12	41	24804	0.6024E+03	-0.3544E+05			26,290	1,025
R1 NO. 18	11	36	9833	0.3646E+03	-0.4030E+04			15,922	1,020
R1 NO. 19	11	35	12141	0.2439E+03	0.2029E+05			30,494	0.757

TABLE 4.3 (Continued)

LLOYD - LIPDM MODEL GROUND SYSTEM COMPUTER FIELD							
	SYNO	NO.	FAIL	HOURS	P1	P2	P3
RS NO. 1	17	10	3063	0.2093E+03	0.1202E+04		
RS NO. 2	2	10	4376	0.1925E+03	0.0366E+04		
RS NO. 3	2	9	6336	0.5970E+03	-0.2922E+06		
						RSAR	RE
						220,169	0.090
						96,132	0.500
						6,100	0.020

LLOYD - LIPDM MODEL
GROUND SYSTEM
COMPUTER
IN-MOUSE

	SYNO	NO.	FAIL	HOURS	P1	P2	P3
RS NO. 1	11	46	4467	0.5205E+02	0.1555E+04		
RS NO. 2	14	12	2043	0.1136E+03	0.2769E+03		
RS NO. 3	14	43	11109	0.3404E+03	-0.5319E+03		
RS NO. 4	14	45	10666	0.3041E+03	-0.6332E+03		
RS NO. 5	14	9	2792	0.2334E+03	0.1200E+08		
						RSAR	RE
						42,990	0.773
						337,220	0.501
						16,264	0.003
						19,137	0.006
						7,252	0.202

LLOYD - LIPDM MODEL
GROUND SYSTEM
COMPUTER
IN-MOUSE

	SYNO	NO.	FAIL	HOURS	P1	P2	P3
RS NO. 1	13	10	1540	0.6102E+02	0.3000E+03		
						RSAR	RE
						10,201	1.052

TABLE 4.3 (Continued)
 LLOYD-LIPOM MODEL
 GRONDSYSTEM
 COMPUTER
 IN-MOUSE

RS NO.	1	2	3	4	5	6	7	8	SYSD NO.	FAIL	HOURS	P1	P2	P3	P4	NOAR	RE
RS NO. 1	9	10	1726	0.6700E+02	0.1073E+03											2009,260	0,063
RS NO. 2	9	25	2261	0.2741E+02	0.3913E+03											65,120	0,050
RS NO. 3	9	26	2370	0.6497E+02	0.3246E+04											60,750	0,700
RS NO. 4	9	3	3105	0.4106E+02	-0.1154E+04											12,020	1,052
RS NO. 5	2	74	3415	0.2507E+02	0.2670E+03											17,350	0,910
RS NO. 6	2	67	4936	0.3000E+02	0.1273E+03											20,023	1,012
RS NO. 7	1	5	8513	-0.1620E+04	-0.1552E+00											20,052	0,390
RS NO. 8	1	0	5339	0.1581E+04	0.5126E+06											18,010	1,261

TABLE 4.3 (Continued)
 LLOYD-LIPOM MODEL
 GROUND SYSTEM
 COMMUNICATIONS
 FIELD

	SYSTO	NO,FAIL	HOURS	P1	P2	P3	P4	RPAR	RE
R1 NO, 1	4	14	35400	0.1017E+04	-0.9630E+07			35,006	0,794
R1 NO, 2	4	25	46800	0.1110E+04	-0.3102E+07			33,908	0,802
R1 NO, 3	4	11	51400	0.4466E+04	-0.1334E+07			6,572	1,052
R1 NO, 4	4	11	41700	-0.7640E+04	-0.5107E+09			14,985	0,226
R1 NO, 5	4	16	33600	0.1466E+04	-0.3700E+07			12,362	0,441
R1 NO, 6	4	16	24920	0.1759E+04	0.6684E+06			13,524	0,460
R1 NO, 7	4	16	32000	0.1947E+04	0.1822E+07			29,846	0,533
R1 NO, 8	4	95	42400	0.4248E+03	0.1777E+06			30,732	0,736
R1 NO, 9	4	4	66800	0.5409E+04	0.1029E+08			30,126	0,857
R1 NO, 10	4	34	67000	0.6504E+03	-0.5776E+09			24,062	0,305
R1 NO, 11	4	23	66800	0.1496E+04	-0.1470E+07			10,010	0,944
R1 NO, 12	4	3	42000	0.8300E+04	0.1705E+08			12,006	0,927

LLOYD-LIPOM MODEL
 GROUND SYSTEM
 COMMUNICATIONS
 IN-HOUSE

	SYSTO	NO,FAIL	HOURS	P1	P2	P3	P4	RPAR	RE
R3 NO, 1	2	20	3415	0.1337E+03	0.2225E+04			7,423	0,940
R3 NO, 2	2	10	4534	0.4203E+03	0.3366E+05			33,882	9,320

TABLE 4.3 (Continued)

LL OYD - LIPOM MODEL
GROUND SYSTEM
SYSTEM - RADAR
FIELD

RI NO.	1	16	24	2513	SYNO NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	16	24	2513	0.0000E+02	0.1907E+04						50,000	0,500
R1 NO. 2	11	179	6751	0.2010E+02	0.1011E+03						30,000	0,030
R1 NO. 3	12	170	2000	0.1310E+03	-0.6023E+03						9,921	0,500
R1 NO. 4	11	200	7000	0.1000E+02	0.1000E+03						30,030	0,033
R1 NO. 5	11	110	0302	0.1510E+02	0.1430E+03						100,147	0,030
R1 NO. 6	12	100	10300	0.0430E+02	0.4150E+04						10,120	0,000
R1 NO. 7	12	97	9105	0.1022E+03	0.0127E+04						63,936	0,723
R1 NO. 8	11	200	7570	0.2300E+02	0.3132E+03						29,300	0,070

LL OYD - LIPOM MODEL
GROUND SYSTEM
SYSTEM - RADAR
IN-HOUSE

RI NO.	1	14	2076	0.1120E+03	0.2792E+04						RBAR	RE
R3 NO. 1	1	14	2076	0.1120E+03	0.2792E+04						33,105	0,000
R3 NO. 2	1	53	5005	0.7155E+02	0.6000E+03						20,217	0,000

LL OYD - LIPOM MODEL
GROUND SYSTEM
SYSTEM - MICROWAVE
IN-HOUSE

RI NO.	1	30	1122	0.3100E+02	0.3200E+03						RBAR	RE
R1 NO. 1	5	30	1122	0.3100E+02	0.3200E+03						23,001	0,000

TABLE 4.3 (Continued)
 LLOYD-LIPOM MODEL
 GROUND SYSTEM
 SYSTEM-MICROWAVE
 FIELD

R1 NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SVNO	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
NO. FAIL	17	54	32	60	44	135	323	299	201	5	29	103	477	360	203	302	101	104	546	104
HOURS	407	3031	1373	7124	2662	42076	46856	47696	46790	161	2767	35000	42610	32000	26920	33000	41798	51040	60040	10240
P1	0.240E+02	0.3966E+02	0.6533E+02	0.6092E+02	0.5976E+02	0.2903E+03	0.9492E+02	0.1306E+03	0.1141E+03	0.2767E+02	0.7700E+02	0.1706E+03	0.5712E+02	0.6007E+02	0.9073E+02	0.8600E+02	0.2391E+03	0.1931E+03	0.5000E+02	0.5032E+02
P2	0.1694E+03	0.7068E+03	0.7190E+03	0.6096E+04	0.5923E+03	0.1420E+05	0.1273E+04	0.1100E+05	0.4932E+04	0.1532E+03	0.2722E+04	0.2749E+05	0.1261E+04	0.2972E+04	0.2300E+04	0.3646E+04	0.3673E+05	0.1921E+05	0.6616E+04	0.1502E+04
P3																				
P4																				
RE	0.913	0.875	0.926	0.898	0.970	0.983	1.002	0.911	1.001	0.912	0.719	0.938	0.943	0.964	0.986	0.970	0.931	0.817	0.985	0.964
ABAR	20.459	17.750	26.896	53.502	16.926	9.879	20.872	43.894	21.100	10.602	10.354	15.923	16.086	36.030	20.200	12.319	31.605	19.426	21.100	20.060

TABLE 4.3 (Continued)
AROE MODEL
GROUND SYSTEM
ANTENNA
FIELD

	SYSDO	NO. PAIR	HOURS	P1	P2	P3	P4	MBAR	RE
R1 NO. 1	12	7	18304	0.1213E+04	0.6050E+03			26.673	0.634
R1 NO. 2	12	3	24804	0.5307E+04	0.1765E+04			27.315	0.574
R1 NO. 3	5	3	2767	0.1641E+03	-0.9257E+03			10.695	0.344
R1 NO. 4	5	9	3032	0.1302E+03	0.5500E+02			40.449	0.941
R1 NO. 5	5	6	1373	0.1914E+03	0.4257E+02			3.982	0.031
R1 NO. 6	5	6	7124	0.6001E+03	0.3087E+03			66.513	0.656
R1 NO. 7	5	4	2663	0.5099E+03	-0.2027E+02			13.164	1.506
R1 NO. 8	5	7	407	0.5964E+02	6.2170E+02			12.831	0.488
R1 NO. 9	4	10	42000	0.2790E+04	0.1490E+04			14.791	0.253
R1 NO. 10	4	14	46000	0.2193E+04	0.5610E+03			33.320	1.102
R1 NO. 11	4	23	47900	0.1630E+04	0.0769E+03			22.156	0.996
R1 NO. 12	4	41	46060	0.7437E+03	-0.2131E+04			26.967	0.702
R1 NO. 13	4	73	46000	0.4020E+03	-0.2960E+03			19.574	0.942
R1 NO. 14	4	13	51440	0.1141E+04	-0.5931E+05			25.365	0.606
R1 NO. 15	4	20	31700	0.1155E+04	0.6026E+03			30.487	0.741
R1 NO. 16	4	33	18240	0.3221E+03	-0.2097E+03			26.530	0.994
R1 NO. 17	4	35	33600	0.1003E+04	-0.7604E+03			13.196	0.609
R1 NO. 18	4	14	24920	0.1015E+04	-0.1372E+04			15.520	0.613
R1 NO. 19	4	61	32800	0.4522E+03	0.3315E+03			32.241	0.733
R1 NO. 20	4	80	42000	0.3104E+03	0.6740E+02			0.891	0.972
R1 NO. 21	4	22	35000	0.1116E+04	-0.5560E+04			15.648	0.107

TABLE 4.3 (Continued)

AROE MODEL GROUND SYSTEM ANTENNA IN HOUSE									
RS NO.	1	2	3	4	5	6	7	8	9
SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	1	4	3036	0.2607E+03	0.1125E+03		44,975	0.666
R2	NO. 2	1	5	5085	0.4662E+03	0.3254E+02		13,881	0.196
R3	NO. 3	18	4	3822	0.1865E+03	-0.4079E+02		8,927	1.268

AROE MODEL GROUND SYSTEM RADAR FIELD									
RS NO.	1	2	3	4	5	6	7	8	9
SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	16	14	2513	0.7425E+02	0.4276E+02		56,180	0.614
R2	NO. 2	12	99	24804	0.2334E+03	-0.1310E+03		9,257	9.804
R3	NO. 3	11	70	6751	0.6319E+02	0.1999E+02		44,826	0.641
R4	NO. 4	12	34	9165	0.1867E+03	0.1904E+03		25,660	0.779
R5	NO. 5	12	4	714	0.1337E+03	0.4608E+02		22,570	0.960
R6	NO. 6	12	77	18304	0.2031E+03	0.6071E+02		13,732	0.937
R7	NO. 7	11	71	4382	0.2771E+02	0.2616E+02		50,074	0.885
R8	NO. 8	11	129	7574	0.4052E+02	-0.6749E+01		23,252	1.014

TABLE 4.3 (Continued)
 A R O E F M O D E L
 G R O U N D S Y S T E M
 P A D A P
 I N - H O U S E

R3 NO. 1	1	20	6369	0.1296E+03	0.3667E+02	P3	P4	RBAR	RE
R3 NO. 2	1	3	2076	0.3499E+03	0.6621E+02			18,597	0.369
R3 NO. 3	10	10	3022	0.1773E+03	0.6001E+02			22,607	0.609
R3 NO. 4	10	12	9370	9.2673E+03	-0.2940E+04			0.203	0.097
R3 NO. 5	10	11	4650	0.6910E+03	0.1021E+03			7.042	0.223

TABLE 4.3 (Continued)
 A R O E F M O D E L
 G R O U N D S Y S T E M
 M I C R O - A V E
 F I E L D

	SYSDO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	4	114	42070	0.3307E+03	0.6670E+02			9.004	0.963
R1 NO. 2	4	250	40060	0.1057E+03	0.4717E+02			26.359	1.009
R1 NO. 3	4	240	47000	0.1400E+03	0.1190E+03			40.700	0.940
R1 NO. 4	4	103	40790	0.1146E+03	-0.1545E+02			19.955	1.022
R1 NO. 5	5	10	407	0.4013E+02	0.1064E+02			10.610	0.960
R1 NO. 6	5	40	2663	0.6200E+02	0.1961E+02			10.041	0.966
R1 NO. 7	5	26	1373	0.3540E+02	-0.7616E+03			11.906	0.106
R1 NO. 8	5	42	7120	0.8040E+02	0.6920E+02			30.409	0.932
R1 NO. 9	5	45	3032	0.5200E+02	0.1604E+02			15.613	0.955
R1 NO. 10	5	4	161	0.3606E+02	0.1321E+02			12.555	0.077
R1 NO. 11	5	26	2767	0.0627E+02	0.5034E+02			10.504	0.805
R1 NO. 12	4	147	35000	0.2020E+03	-0.5065E+02			12.904	0.905
R1 NO. 13	4	302	42610	0.8100E+02	-0.9547E+02			16.652	0.944
R1 NO. 14	4	203	32000	0.7364E+02	0.5150E+02			32.991	0.900
R1 NO. 15	4	173	24920	0.9030E+02	0.2730E+02			22.405	1.007
R1 NO. 16	4	251	33600	0.3547E+02	-0.9224E+01			14.260	1.011
R1 NO. 17	4	149	10240	0.6040E+02	0.3770E+02			10.769	0.934
R1 NO. 18	4	142	41700	0.2020E+03	0.2195E+03			30.815	0.940
R1 NO. 19	4	160	51040	0.1932E+03	0.1300E+03			22.075	0.700
R1 NO. 20	4	400	40050	0.6015E+02	-0.5907E+02			20.217	1.000

TABLE 4.3 (Continued)

TABLE 4.3 (Continued)
 A R O E F M O D E L
 G R O U N D S Y S T E M
 D I S P L A Y
 F I E L D

	SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RE
R2 NO. 1	0	15	9425	0.4320E+03	0.1000E+03		24.919	0.019
R2 NO. 2	0	7	8246	0.6220E+03	0.3027E+03		33.536	0.032
R2 NO. 3	0	14	7570	0.3100E+03	0.1275E+03		19.010	0.033
R2 NO. 4	0	11	9425	0.0035E+03	0.2159E+03		10.253	0.751
R2 NO. 5	0	15	45376	0.5535E+03	0.5130E+03		32.782	0.064
R2 NO. 6	0	4	22037	0.3631E+04	0.1603E+04		31.967	0.766
R2 NO. 7	0	9	45955	0.1520E+04	0.5590E+03		9.022	0.303
R2 NO. 8	0	17	8979	0.6093E+03	0.5012E+03		10.543	0.003
R2 NO. 9	0	18	11916	0.5016E+03	0.0310E+02		6.570	0.057
R2 NO. 10	0	11	17219	0.1472E+04	0.1203E+02		0.599	1.053
R2 NO. 11	0	3	2237	0.3502E+03	0.1660E+04		1.407	0.007
R2 NO. 12	0	4	2207	0.6078E+03	0.2050E+03		0.902	0.006
R2 NO. 13	0	3	2332	0.0732E+03	0.3211E+03		1.646	0.011
R2 NO. 14	0	3	1900	0.6923E+03	0.2101E+03		13.200	0.702
R2 NO. 15	0	3	631	0.1155E+03	0.3712E+03		1.116	0.005
R2 NO. 16	0	4	3402	0.3766E+03	0.0176E+02		1.655	0.612
R2 NO. 17	0	11	4096	0.3900E+03	0.3210E+02		3.426	0.003
R2 NO. 18	0	14	44314	0.2059E+04	0.3130E+03		15.036	0.266
R2 NO. 19	0	9	45376	0.2376E+04	0.1200E+04		21.709	0.462

AGROFUND, A MODEL
GROUP, SYSTEM
OF FLOOD CONTROL

	SYND	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RZ
R2 NO.20	0	6	3320	0.1750E+00	-0.3530E+03			10.403	1.107
R2 NO.21	0	3	45221	0.1132E+05	0.1030E+00			10.692	0.371
R2 NO.22	0	16	45477	0.1271E+00	0.2500E+03			77.245	0.609
R2 NO.23	0	10	45201	0.3670E+00	0.1230E+00			0.051	0.300

ACROSS MODEL
GROUND SYSTEM
CITYPLAY
FIELD

P2	NO, 1	17	5	3794	P1	P2	P3	P4	MEAN	RE
P2	NO, 1	17	5	3794	0.0001E+03	0.1310E+03			25.129	0.007
P3	NO, 2	2	12	4336	0.3181E+03	0.1500E+03			26.776	0.017
P3	NO, 3	2	8	4976	0.2778E+03	0.7021E+02			26.427	0.331

TABLE 4.3 (Continued)

A R O E F M O D E L G R O U N D S Y S T E M D I S P L A Y I N - M O U S E									
SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RDAR	RE	
R2 NO. 1	0	105	2700	0.6235E+01	0.6644E+01		31,425	0,970	
R2 NO. 2	0	100	3200	0.1106E+02	0.9063E+01		50,076	0,900	
R2 NO. 3	0	50	3700	0.3210E+02	0.2705E+02		59,022	0,902	
R2 NO. 4	0	33	3770	0.2390E+02	0.4742E+02		70,156	1,020	
R2 NO. 5	0	16	2500	0.1113E+03	0.4060E+02		20,902	0,007	

A R O E F M O D E L G R O U N D S Y S T E M D I S P L A Y I N - M O U S E									
SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RDAR	RE	
R3 NO. 1	7	17	2103	0.6706E+02	0.3517E+02		39,590	0,020	
R3 NO. 2	7	32	2200	0.6010E+02	0.1000E+02		20,946	0,072	
R3 NO. 3	7	12	3322	0.2109E+03	-0.5122E+03		29,000	0,076	
R3 NO. 4	2	304	3615	0.5370E+01	0.1221E+01		0,730	0,007	
R3 NO. 5	2	211	4536	0.2006E+02	-0.2611E+02		23,618	1,005	
R3 NO. 6	1	6	4659	0.4379E+02	-0.2176E+04		0,227	0,007	
R3 NO. 7	1	21	6144	0.2147E+03	-0.5275E+02		13,100	0,970	

TABLE 4.3 (Continued)
 A R O E F M O D E L
 C R O U N D S Y S T E M
 C O M P U T E R
 P I E L D

	BYEND	NO,FAIL	HOURS	P1	P2	P3	P4	QBAR	RE
R1 NO. 1	11	34	11490	0.2167E+03	0.1300E+03			29,314	2,677
R1 NO. 2	11	33	5703	0.6125E+02	0.4203E+02			100,092	0,936
R1 NO. 3	12	16	9165	0.4570E+03	0.1590E+03			39,132	0,330
R1 NO. 4	15	19	11800	0.3900E+03	0.1110E+03			10,600	0,910
R1 NO. 5	12	35	10304	0.2331E+03	0.1303E+03			29,438	0,594
R1 NO. 6	16	5	2513	0.4552E+03	0.1592E+03			6,695	0,122
R1 NO. 7	15	9	11209	0.9177E+03	0.3900E+03			17,295	0,567
R1 NO. 8	15	7	10642	0.2931E+04	0.1152E+04			14,363	1,019
R1 NO. 9	15	9	16192	0.1106E+04	0.1120E+04			12,448	0,601
R1 NO. 10	15	19	23695	0.1235E+04	0.6510E+03			17,319	0,207
R1 NO. 11	15	10	15741	0.6015E+03	0.2603E+02			0,044	1,131
R1 NO. 12	15	17	23572	0.1290E+04	0.4390E+03			13,000	0,600
R1 NO. 13	15	20	15754	0.7206E+03	0.2797E+03			10,538	0,799
R1 NO. 14	15	16	13960	0.7528E+03	0.4505E+02			0,099	1,002
R1 NO. 15	15	34	23600	0.5905E+03	0.2912E+03			10,633	0,704
R1 NO. 16	11	35	10323	0.2159E+03	0.7310E+02			12,632	0,630
R1 NO. 17	12	41	20004	0.6090E+03	0.2933E+03			23,034	1,072
R1 NO. 18	11	36	9035	0.3576E+03	0.1901E+02			15,305	1,037
R1 NO. 19	11	38	12161	0.2808E+03	0.1475E+03			32,599	0,724

TABLE 4.3 (Continued)

AROE MODEL GROUND SYSTEM COMPUTER FILED											
			SVSNO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
MS	NO. 1	17		10	3063	0.2232E+03	0.1677E+02			106.968	0.932
MS	NO. 2	2		16	4576	0.1700E+03	0.0316E+02			60.600	0.488
MS	NO. 3	2		9	6336	0.6077E+03	-0.3793E+03			6.225	0.436

A R O O P M O D E L G R O U N D S Y S T E M C O M P U T E R I N - H O U S E											
		SYSTEM	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RZ	
R1	NO. 1	11	46	4467	0.4003E+02	0.3951E+02			35,043	0,740	
R1	NO. 4	14	12	2043	0.9850E+02	0.9398E+01			77,191	0,596	
R1	NO. 3	14	43	11109	0.3308E+03	-1565E+03			16,342	0,932	
R1	NO. 4	14	45	10466	0.2990E+03	-1404E+03			15,141	0,916	
R1	NO. 5	14	9	2792	0.2331E+03	0.6234E+02			6,890	0,603	

	SYNO	NO.	PAIL	HOURS	P1	P2	P3	P4	RBAR	RZ
AROE MODEL GROUND SYSTEM COMPUTER IN-HOUSE	13	18	1960	0.5977E+02	0.6296E+01				13,273	1,060

TABLE 4.3 (Continued)

A R O E F M O D E L S R O U N D S Y S T E M C O M P U T E R I N - H O U S E									
	SYSDO	NO, FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	9	10	1724	0.1509E+02	0.3307E+01			215,426	1,272
R3 NO. 2	9	29	3261	0.2208E+02	0.1207E+02			29,010	0,990
R3 NO. 3	9	24	2370	0.3736E+02	0.6404E+02			33,350	0,711
R3 NO. 4	9	3	3105	0.4111E+02	-0.2306E+02			12,623	1,070
R3 NO. 5	2	74	3613	0.2403E+02	0.1092E+02			15,941	0,916
R3 NO. 6	2	67	4516	0.2007E+02	0.1331E+01			23,663	1,030
R3 NO. 7	1	5	8513	0.3150E+03	-0.7535E+04			14,605	0,393
R3 NO. 8	1	4	4339	0.1533E+04	0.3524E+03			16,985	1,223

TABLE 4.3 (Continued)
AROE P MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

SI	NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	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TABLE 4.3 (Continued)

AROSE MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

RI NO.	SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	PBAR	RE
R1 NO. 1	10	24	2513	0.6317E+02	0.3949E+02				40.823	0.439
R1 NO. 2	11	170	6751	0.2513E+02	0.1327E+02				25.941	0.799
R1 NO. 3	12	170	24846	0.1333E+03	-0.3210E+03				9.001	0.619
R1 NO. 4	11	244	7049	0.1475E+02	0.1212E+02				34.324	0.975
R1 NO. 5	11	114	4302	0.1090E+02	0.1101E+02				67.890	1.031
R1 NO. 6	12	140	10304	0.0207E+02	0.6347E+02				15.136	0.748
R1 NO. 7	12	57	9145	0.9070E+02	0.9103E+02				49.660	0.607
R1 NO. 8	11	200	7974	0.2360E+02	0.1272E+02				23.493	0.000

AROSE MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

RI NO.	SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	PBAR	RE
R3 NO. 1	1	14	2076	0.1100E+03	0.4393E+02				35.330	0.392
R3 NO. 2	1	53	5005	0.7100E+02	0.2141E+02				13.003	0.361

AROSE MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

RI NO.	SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	PBAR	RE
R1 NO. 1	3	34	1122	0.3100E+02	0.2093E+02				22.923	0.630

TABLE 4.3 (Continued)
AROE MODEL
GROUND SYSTEM
SYSTEM-MICROMAVE
FIELD

R1 NO.	SYSDO	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	5	17	407	0.2832E+02	0.8133E+01			19,521	0,928
R1 NO. 2	5	58	3631	0.3871E+02	0.1808E+02			16,561	9,861
R1 NO. 3	5	32	1373	0.6341E+02	0.2066E+02			26,731	0,972
R1 NO. 4	5	48	7124	0.6969E+02	0.7455E+02			43,897	0,926
R1 NO. 5	5	44	2662	0.5888E+02	0.1701E+02			16,800	1,005
R1 NO. 6	4	135	42076	0.2927E+03	0.4845E+02			9,832	0,983
R1 NO. 7	4	323	46850	0.9043E+02	0.7615E+01			23,252	1,020
R1 NO. 8	4	299	47896	0.1206E+03	0.1806E+03			39,917	0,918
R1 NO. 9	4	281	46798	0.1091E+03	-0.4216E+02			19,148	1,017
R1 NO.10	5	5	161	0.2734E+02	0.5869E+01			9,835	0,980
R1 NO.11	5	20	2767	0.7670E+02	0.4437E+02			17,432	0,682
R1 NO.12	4	183	35800	0.1660E+03	-0.1420E+03			10,955	0,975
R1 NO.13	4	477	42618	0.5620E+02	-0.1043E+02			13,951	1,009
R1 NO.14	4	360	32800	0.6057E+02	0.4671E+02			33,850	0,989
R1 NO.15	4	203	24720	0.8041E+02	0.2703E+02			19,750	0,998
R1 NO.16	4	302	35480	0.0508E+02	-0.3467E+02			12,127	0,983
R1 NO.17	4	181	41794	0.2270E+03	0.1737E+03			31,596	0,937
R1 NO.18	4	184	51440	0.1003E+03	0.1343E+03			19,065	0,772
R1 NO.19	4	546	46840	0.5761E+02	-0.0101E+02			26,896	0,961
R1 NO.20	4	184	18240	0.5032E+02	0.2593E+02			18,586	0,972

TABLE 4.3 (Continued)

	SYSDO	NO_FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	12	7	18304	0.6002E+03	9.9676E+04		14.929	0.251
R1	NO, 2	12	3	24804	0.1203E+04	0.8816E+04		19.462	0.078
R1	NO, 3	5	3	2767	0.1703E+04	-0.1412E+02		9.986	0.296
R1	NO, 4	5	9	3032	0.5530E+02	0.6424E+03		15.010	0.050
R1	NO, 5	5	6	1373	0.4106E+02	0.1750E+02		55.120	1.671
R1	NO, 6	5	6	7124	0.1444E+03	0.3283E+03		14.740	0.154
R1	NO, 7	5	4	2663	0.4056E+03	0.5261E+04		13.094	1.403
R1	NO, 8	5	7	407	0.2644E+02	0.2696E+02		26.504	0.960
R1	NO, 9	4	10	48000	0.1407E+04	0.1816E+04		21.409	0.603
R1	NO, 10	4	14	46000	0.1573E+04	0.1550E+04		20.684	0.680
R1	NO, 11	4	23	47900	0.1362E+04	0.1220E+04		13.947	0.510
R1	NO, 12	4	41	46060	0.8200E+03	0.4054E+05		22.665	1.009
R1	NO, 13	4	73	46040	0.6211E+03	0.0516E+05		11.516	0.700
R1	NO, 14	4	13	51440	0.2260E+05	-0.3059E+04		20.626	6.755
R1	NO, 15	4	28	31790	0.5703E+03	0.3112E+04		22.157	0.377
R1	NO, 16	4	33	10240	0.2877E+03	0.2864E+04		23.251	0.022
R1	NO, 17	4	35	33680	0.1390E+04	-0.1431E+04		0.519	0.535
R1	NO, 18	4	14	24920	0.1733E+04	-0.3478E+04		17.150	0.584
R1	NO, 19	4	61	32800	0.2523E+03	0.3106E+04		16.209	0.294
R1	NO, 20	4	80	42000	0.2793E+03	0.8843E+05		0.404	0.407
R1	NO, 21	4	22	35300	0.2612E+04	-0.1979E+04		23.750	0.720

TABLE 4.3 (Continued)

SAMPLE EXPONENTIAL GROUND SYSTEM ANTENNA IN-HOUSE									
RS NO.	NO.	FAIL	HOURS	P1	P2	P3	MSAR	RE	
R3	NO. 1	1	4	3030	0.0710E+02	0.1101E+02	15.373	0.005	
R3	NO. 2	1	5	5005	0.3300E+02	0.1305E+02	113.363	2.025	
R3	NO. 3	10	4	3022	0.2036E+03	-0.2302E+03	0.260	1.000	

SAMPLE EXPONENTIAL GROUND SYSTEM RADAR FIELD									
RS NO.	NO.	FAIL	HOURS	P1	P2	P3	MSAR	RE	
R1	NO. 1	16	2513	0.2317E+02	0.9653E+03		36.491	0.361	
R1	NO. 2	12	24004	0.2690E+03	-0.1045E+04		9.413	0.763	
R1	NO. 3	11	6751	0.2730E+02	0.2500E+03		52.523	0.477	
R1	NO. 4	12	9165	0.1133E+03	0.1096E+03		10.029	0.416	
R1	NO. 5	12	714	0.7390E+02	0.1159E+02		10.930	0.171	
R1	NO. 6	12	10304	0.1003E+03	0.1199E+04		10.966	0.930	
R1	NO. 7	11	4302	0.1275E+02	0.4615E+03		16.207	0.107	
R1	NO. 8	11	7574	0.3277E+02	0.7403E+04		10.703	0.925	

TABLE 4.3 (Continued)
 SAMPLE EXPONENTIAL
 GROUPED SYSTEM
 RADAR
 IN-MOUSE

	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. FAIL	HOURS	P1	P2	P3	P4	ROAR	RE
R3	1	1	1	1	1	20	6369	0.6000E+02	0.2327E+03			26,307	0,320
R3	2	1	1	1	1	3	2076	0.4030E+02	0.2039E+02			52,170	0,000
R3	3	10	10	10	10	10	3022	0.9000E+02	0.3100E+03			25,020	0,001
R3	4	10	10	10	10	12	5370	0.2000E+04	-0.3002E+03			10,300	0,231
R3	5	10	10	10	10	11	4650	0.2036E+03	0.1272E+03			20,333	0,030

TABLE 4.3 (Continued)
 SAMPLE EXPERIMENTAL
 GROUND SYSTEM
 MICROWAVE
 FIELD

RI NO.	NO. FAIL	HOURS	P1	P2	P3	PA	RBAR	RE
R1 NO. 1	4	114	42970	0.3030E+03	0.3079E+25		0.913	0.600
R1 NO. 2	4	259	46860	0.7469E+02	0.2030E+04		0.512	0.105
R1 NO. 3	4	200	47899	0.7313E+02	0.2723E+04		10.110	0.205
R1 NO. 4	4	103	46700	0.8000E+02	0.2165E+04		0.683	0.173
R1 NO. 5	5	10	407	0.3358E+02	0.4321E+03		20.040	1.133
R1 NO. 6	5	40	2663	0.6077E+02	-0.0910E+05		16.739	1.939
R1 NO. 7	5	26	1373	0.3609E+03	-0.1457E+02		12.011	0.167
R1 NO. 8	5	42	7120	0.4660E+02	0.2245E+03		11.470	0.082
R1 NO. 9	5	45	3032	0.4265E+02	0.1340E+03		11.675	0.672
R1 NO. 10	5	4	161	0.1907E+02	0.4500E+02		2.332	0.012
R1 NO. 11	5	26	2767	0.5333E+02	0.2001E+03		15.066	0.375
R1 NO. 12	4	147	35400	0.2276E+03	-0.7561E+05		12.040	0.051
R1 NO. 13	4	302	42610	0.7100E+02	0.1133E+04		11.379	0.050
R1 NO. 14	4	203	32000	0.4007E+02	0.3145E+04		12.062	0.141
R1 NO. 15	4	175	24920	0.7726E+02	0.2060E+04		12.593	0.550
R1 NO. 16	4	251	33600	0.8217E+02	0.1109E+04		9.007	0.606
R1 NO. 17	4	149	10240	0.5056E+02	0.4772E+04		0.329	0.132
R1 NO. 18	4	112	41790	0.1023E+03	0.1750E+04		17.936	0.422
R1 NO. 19	4	160	51440	0.1205E+03	0.2008E+04		11.660	0.210
R1 NO. 20	4	446	46034	0.5600E+02	0.1300E+04		0.429	0.360

TABLE 4.3 (Continued)

S I M P L E E X P O N E N T I A L G R O U N D S Y S T E M M I C R O W A V E I M - M O U S E									
R1 NO. 1	SVSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
1	5	33	1122	0.2006E+02	0.6940E+03			10.811	0.636
S I M P L E E X P O N E N T I A L G R O U N D S Y S T E M D I S P L A Y F I E L D									
R1 NO. 1	SVSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
1	11	36	1100	0.6640E+02	0.1779E+03			10.040	0.192
1	11	17	4302	0.5505E+02	0.4447E+03			19.152	0.250
1	12	30	10304	0.2727E+03	0.3000E+04			13.925	0.620
1	12	7	9165	0.7090E+02	0.3351E+03			22.073	0.036
1	12	4	714	0.2306E+02	0.3033E+02			40.316	0.200
1	11	49	7663	0.1107E+03	0.5641E+04			5.600	0.013
1	11	117	8000	0.1071E+03	0.1929E+04			0.991	0.020
1	12	33	24004	0.6905E+03	0.2694E+05			10.593	1.031
1	11	177	7000	0.9060E+01	0.2375E+03			7.917	0.000

TABLE 4.3 (Continued)
SAMPLE EXPONENTIAL
GROUND SVR ITEM
DISPLAY
FIELD

R2 NO.	SVR NO.	FAIL	HOURS	P1	P2	P3	P4	RE
R2 NO. 1	0	15	9825	0.2671E+03	0.9704E-04			7.198
R2 NO. 2	0	7	8286	0.2996E+03	0.1704E-03			7.978
R2 NO. 3	0	16	7570	0.2639E+03	0.1137E-03			4.527
R2 NO. 4	0	11	9425	0.6693E+03	0.3018E-04			5.989
R2 NO. 5	0	15	45376	0.5412E+03	0.6730E-04			12.869
R2 NO. 6	0	4	22037	0.1418E+04	0.6107E-04			4.258
R2 NO. 7	0	9	45059	0.9012E+03	0.4867E-04			19.683
R2 NO. 8	0	17	8979	0.1217E+04	0.9530E-04			10.178
R2 NO. 9	0	10	11916	0.5000E+03	0.2169E-04			2.747
R2 NO. 10	0	11	17219	0.1450E+04	0.1110E-05			0.602
R2 NO. 11	0	3	2237	0.2506E+04	0.5717E-03			4.731
R2 NO. 12	0	4	2247	0.3275E+03	0.2730E-03			0.737
R2 NO. 13	0	3	2532	0.3395E+03	0.4026E-03			10.959
R2 NO. 14	0	3	1900	0.3417E+03	0.3223E-03			5.152
R2 NO. 15	0	3	631	0.5943E+03	0.1690E-02			4.397
R2 NO. 16	0	4	3692	0.9787E+03	0.3155E-04			0.947
R2 NO. 17	0	11	4096	0.4377E+03	0.2965E-04			2.255
R2 NO. 18	0	14	44314	0.8970E+03	0.3907E-04			42.226
R2 NO. 19	0	9	45376	0.9733E+03	0.4620E-04			20.750
R2 NO. 20	0	6	33320	0.2129E+04	0.1031E-04			17.894
								1.150

TABLE 4.3 (Continued)
 SIMPLE EXPERIMENTAL
 GROUND SYSTEM
 DISPLAY
 FIELD
 (CONTINUED)

	SYNO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
Q2 NO. 21	0	3	45221	0.1090E+00	0.6754E+00			59.142	1.660
R2 NO. 22	0	16	45677	0.2986E+03	0.6672E+00			59.360	0.745
R2 NO. 23	0	10	45261	0.1911E+00	0.2302E+00			29.312	1.150

TABLE 4.3 (Continued)

SIMPLE EXPERIMENTAL GROUND SYSTEM DISPLAY FIELD									
RS NO.	NO. 1	NO. 2	NO. 3	NO. FAIL	HOURS	P1	P2	P3	REAR
RS NO. 1	17	5	3700	0.0625E+02	0.6900E-03				44.170
RS NO. 2	2	12	0330	0.1000E+03	0.1735E-03				10.635
RS NO. 3	2	0	4976	0.9665E+02	0.5207E-03				30.635
									0.310
SIMPLE EXPERIMENTAL GROUND SYSTEM DISPLAY IN-MOUSE									
RS NO.	NO. 1	NO. 2	NO. 3	NO. FAIL	HOURS	P1	P2	P3	REAR
RS NO. 1	0	105	2700	0.4150E+01	0.0101E-03				9.774
RS NO. 2	0	100	3200	0.5020E+01	0.6295E-03				13.015
RS NO. 3	0	50	3700	0.1020E+02	0.5010E-03				15.405
RS NO. 4	0	33	3700	0.1230E+02	0.6700E-03				41.303
RS NO. 5	0	16	2500	0.6073E+02	0.3501E-03				12.090
									0.101

TABLE 4.3 (Continued)

IMPLEMENTATIONAL
GROUND SYSTEM
DISPLAY
IN-MOUSE

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	7	17	2193	0.2755E+02	0.9102E-03				23,203	0.050
R3 NO. 2	7	32	2240	0.3935E+02	0.3193E-03				25,207	0.727
R3 NO. 3	7	12	3322	0.3763E+03	-0.1050E-03				27,377	1.050
R3 NO. 4	2	304	3613	0.6600E+01	0.1361E-03				0.537	0.100
P3 NO. 5	2	211	4536	0.3357E+02	-0.2246E-03				10,700	0.073
R3 NO. 6	1	6	4650	0.4100E+04	-0.2202E-02				5,746	0.029
R3 NO. 7	1	21	6144	0.2290E+03	-0.1077E-04				13,414	1.045

TABLE 4.3 (Continued)

RE

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL GROUND SYSTEM COMPUTER FILED									
	SYNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO, 1	17	10	3965	0.3470E+02	0.7167E+03			110,109	0,302
R3 NO, 2	2	16	4576	0.3740E+02	0.6120E+03			36,365	0,066
R3 NO, 3	2	9	6336	0.6553E+03	0.5535E+04			0,605	0,611

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
IN-MOUSE

	SYNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO, 1	11	46	4467	0.2507E+02	0.3679E+03			16,455	0,176
R1 NO, 2	14	12	2043	0.1202E+02	0.1714E+02			135,030	1,366
R1 NO, 3	14	03	11100	0.4700E+03	0.6638E+04			11,052	0,497
R1 NO, 4	14	05	10666	0.4242E+03	0.4627E+04			0,750	0,466
R1 NO, 5	14	9	2792	0.1717E+03	0.1809E+03			2,346	0,047

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
IN-MOUSE

	SYNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO, 1	13	10	1540	0.6500E+02	0.2057E+03			12,502	1,000

TABLE 4.3 (Continued)
 SIMPLIFIED EXPERIMENTAL
 GROUPING SYSTEM
 COMPUTER
 IN-MOUSE

RS NO.	SVSNO	NO, FAIL	HOURS	P1	P2	P3	P4	MSAR	RE
RS NO. 1	9	10	1726	0.1740E+01	0.3039E+02			66,764	0,727
RS NO. 2	9	25	2261	0.1431E+02	0.9996E+03			6,670	0,037
RS NO. 3	9	24	2370	0.2195E+02	0.7936E+03			19,254	0,150
RS NO. 4	9	3	3109	0.7393E+02	0.3286E+02			12,369	1,024
RS NO. 5	2	70	3415	0.1024E+02	0.2934E+03			2,763	0,016
RS NO. 6	2	67	4536	0.2197E+02	0.2340E+03			11,603	0,221
RS NO. 7	1	5	8913	0.7030E+04	0.3266E+03			10,899	0,485
RS NO. 8	1	4	6330	0.1092E+04	0.4972E+04			17,440	1,336

TABLE 4.3 (Continued)
 SIMPLE EXPONENTIAL
 GROUND SYSTEM
 COMMUNICATIONS
 FILE

	SYNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	4	14	35000	0.1009E+04	0.1032E-05			27,667	1,107
R1 NO. 2	4	25	66000	0.1151E+04	0.7633E-05			26,675	1,017
R1 NO. 3	4	11	51000	0.4700E+04	0.1097E-05			6,310	1,001
R1 NO. 4	4	11	41700	0.5960E+05	0.6009E-04			14,797	0,230
R1 NO. 5	4	16	33600	0.2562E+04	0.2899E-02			11,194	0,465
R1 NO. 6	4	16	24920	0.1110E+04	0.2350E-04			25,367	0,960
R1 NO. 7	4	16	32000	0.0675E+03	0.3347E-04			17,203	0,205
R1 NO. 8	4	95	42000	0.2127E+03	0.2640E-04			26,249	0,737
R1 NO. 9	4	4	46000	0.2510E+04	0.3503E-04			14,129	0,201
R1 NO.10	4	36	47000	0.1067E+05	0.4037E-04			19,747	0,249
R1 NO.11	4	23	46000	0.1520E+04	0.2330E-05			16,451	1,005
R1 NO.12	4	3	42000	0.4215E+04	0.3040E-04			13,323	1,612

SIMPLE EXPONENTIAL
 GROUND SYSTEM
 COMMUNICATIONS
 IN-MOUSE

	SYNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	2	20	3615	0.1250E+03	0.2085E-04			7,464	1,007
R3 NO. 2	2	10	4536	0.1271E+03	0.4007E-03			37,310	1,330

TABLE 4.3 (Continued)
 SAMPLE EXPONENTIAL
 GROUND SYSTEM
 SYSTEM-RADAR
 FIELD

	SYSDNO	NO.FAIL	HOURS	P1	P2	P3	P4	ADAR	RE
R1 NO. 1	10	24	2513	0.2342E+02	0.7941E+03			29.870	0.006
R1 NO. 2	11	178	6751	0.1622E+02	0.1478E+03			14.676	0.107
R1 NO. 3	12	170	24804	0.1608E+03	-3.126E+05			9.517	0.079
R1 NO. 4	11	244	7049	0.9377E+01	0.1024E+03			7.130	0.002
R1 NO. 5	11	114	4302	0.5227E+01	0.5711E+03			16.360	0.120
R1 NO. 6	12	140	18304	0.6009E+02	0.4104E+04			8.802	0.210
R1 NO. 7	12	57	9165	0.3020E+02	0.2015E+03			22.660	0.315
R1 NO. 8	11	200	7574	0.1399E+02	0.1242E+03			7.951	0.100

SAMPLE EXPONENTIAL
 GROUND SYSTEM
 SYSTEM-RADAR
 IN-HOUSE

	SYSDNO	NO.FAIL	HOURS	P1	P2	P3	P4	ADAR	RE
R3 NO. 1	1	14	2076	0.4410E+02	0.6193E+03			24.479	0.639
R3 NO. 2	1	53	5085	0.4378E+02	0.1000E+03			30.034	0.050

SAMPLE EXPONENTIAL
 GROUND SYSTEM
 SYSTEM-MICROWAVE
 IN-HOUSE

	SYSDNO	NO.FAIL	HOURS	P1	P2	P3	P4	ADAR	RE
R1 NO. 1	5	34	1122	0.1050E+02	0.7104E+03			17.849	0.502

TABLE 4.3 (Continued)

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12117

TABLE 4.4

DUANE MODEL
AIRBORNE
RADAR
IN-HOUSE

	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R2 NO. 1	27	6	1500	0.2178E+01	0.6946E+03	0.8010E+00	0.1023E+00	39.107	1.543
R2 NO. 2	27	29	1400	0.7870E+00	0.1941E+02	0.5026E+00	0.4037E-01	13.459	0.171
R2 NO. 3	27	8	400	0.6503E+00	0.1690E+02	0.3833E+00	0.9155E-01	32.080	2.248
R2 NO. 4	27	21	1200	0.5372E+00	0.4150E+01	0.3936E+00	0.1144E+00	23.559	0.304
R2 NO. 5	27	52	6000	0.6237E+00	0.1063E+02	0.5048E+00	0.6239E+00	24.760	0.506

DUANE MODEL
AIRBORNE
RADAR
IN-HOUSE

	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R2 NO. 1	27	162	4988	0.6968E+00	0.3350E+01	0.6231E+00	0.4763E+00	15.003	0.459
R2 NO. 2	27	43	1000	0.4867E+00	0.4400E+00	0.3841E+00	0.4577E+00	25.172	0.147
R2 NO. 3	25	382	2176	0.4967E+00	0.1377E-01	0.4631E+00	0.2343E+01	16.845	0.145
R2 NO. 4	25	315	3984	0.9728E+00	0.1074E+02	0.8999E+00	0.2896E+01	10.804	1.133
R2 NO. 5	27	27	400	0.5998E+00	0.1637E+01	0.4377E+00	0.4094E+00	25.533	0.987
R2 NO. 6	27	42	1300	0.4727E+00	0.4788E+00	0.3719E+00	0.4720E+00	25.418	0.136

TABLE 4.4 (Continued)

DUANE MODEL AIRBORNE DISPLAY IN-HOUSE									
	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RSAR	RE
R2 NO. 1	27	13	1100	0.0415E+00	0.5219E+02	0.5007E+00	0.1418E+00	19.034	2.200
R2 NO. 2	27	8	400	0.0102E+00	0.3072E+02	0.3946E+00	0.0752E-01	29.073	1.213
R2 NO. 3	25	50	3992	0.7205E+00	0.1750E+02	0.5933E+00	0.0704E+00	30.460	4.423
R2 NO. 4	27	13	800	0.7219E+00	0.2291E+02	0.4340E+00	0.5004E-01	20.727	0.333
R2 NO. 5	27	63	4996	0.0261E+00	0.3315E+02	0.6030E+00	0.1525E+00	10.203	0.446
R2 NO. 6	25	11	1200	0.6500E+00	0.3009E+02	0.3600E+00	0.6256E-01	24.523	0.160

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DUANE MODEL AIRBORNE COMPUTER IN-HOUSE									
	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RSAR	RE
R1 NO. 1	23	5	536	0.0105E+00	0.9298E+02	0.4472E+00	0.7170E-01	53.123	3.080
R1 NO. 2	23	3	785	0.0016E+00	0.1566E+03	0.2504E+00	0.9462E-01	65.846	041.710
R1 NO. 3	23	3	521	0.1362E+01	0.2326E+03	0.5006E+00	0.1179E+00	73.785	52.324
R1 NO. 4	21	9	500	0.0268E+00	0.1502E+02	0.3244E+00	0.1376E+00	20.574	0.376
R1 NO. 5	21	10	760	0.4134E+00	0.2098E+01	0.2573E+00	0.9430E-01	30.304	0.163

TABLE 4.4 (Continued)

DUANE MODEL AIRBORNE COMPUTER IN-MOUSE													
					SVSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	26	3	407				0.6742E+00	0.7970E+02	0.2477E+00	0.1492E+00	60.149	4.944
R2	NO. 2	27	77	3994				0.9333E+00	0.3803E+02	0.7886E+00	0.2648E+00	35.070	0.603
R2	NO. 3	27	12	400				0.9625E+00	0.3026E+02	0.5633E+00	0.5074E+01	20.227	4.059
R2	NO. 4	27	27	1400				0.8499E+00	0.2897E+02	0.6206E+00	0.2707E+01	12.301	0.408
R2	NO. 5	27	14	800				0.7650E+00	0.2541E+02	0.4725E+00	0.4249E+01	17.952	0.431

DUANE MODEL
AIRBORNE
LASER TRANSMITTER
IN-MOUSE

RE	NO.	1	21	3	500	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
	R1	NO. 1	21	3	500	0.6427E+00	0.9050E+02	0.2362E+00	0.8508E+01	0.8508E+01	0.8508E+01	82.228	0.700
	R1	NO. 2	21	7	760	0.5091E+00	0.1663E+02	0.2834E+00	0.5156E+01	0.5156E+01	0.5156E+01	35.060	0.074

DUANE MODEL
AIRBORNE
LASER TRANSMITTER
IN-MOUSE

RE	NO.	1	20	7	782	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
	R3	NO. 1	20	7	782	0.5524E+00	0.2309E+02	0.3075E+00	0.4362E+01	0.4362E+01	0.4362E+01	32.250	0.371
	R3	NO. 2	20	11	767	0.5501E+00	0.1029E+02	0.3550E+00	0.1023E+00	0.1023E+00	0.1023E+00	25.462	0.160

TABLE 4.4 (Continued)

DUANE MODEL									
AIRBORNE LASER RECEIVER IN-HOUSE									
R1	NO. 1	21	10	760	0.6074E+00	0.1716E+02	0.3780E+00	0.0561E+01	RE
									39,116
									0.196

DUANE MODEL									
AIRBORNE LASER RECEIVER IN-HOUSE									
R3	NO. 1	20	4	767	0.3881E+00	0.1429E+02	0.1519E+00	0.1246E+00	RE
									55,885
									0.027
R3	NO. 2	20	6	782	0.4320E+00	0.1236E+02	0.2271E+00	0.1893E+00	RE
									51,240
									5,729

DUANE MODEL									
AIRBORNE LASER XMT R / RCVR IN-HOUSE									
R1	NO. 1	21	17	760	0.5400E+00	0.4001E+01	0.3804E+00	0.6448E+01	RE
									22,966
									0.068
R1	NO. 2	21	10	500	0.6601E+00	0.1528E+02	0.4108E+00	0.7190E+01	RE
									31,186
									0.219

TABLE 4.4 (Continued)

DUANE MODEL AIRBORNE LASER XMTR / RCVR IN-HOUSE									
	SYSDO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	20	14	782	0.5253E+00	0.5155E+01	0.3555E+00	0.2034E+00	27.630	0.246
R3 NO. 2	20	15	767	0.4692E+00	0.2388E+01	0.3222E+00	0.8878E-01	20.634	0.050
DUANE MODEL AIRBORNE INFRARED RECEIVER IN-HOUSE									
	SYSDO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	23	5	711	0.2506E+01	0.3778E+03	0.1239E+01	0.1719E+00	45.637	1.083
R1 NO. 2	23	5	705	0.1397E+01	0.2481E+03	0.4879E+00	0.1357E+00	44.329	9.621
R1 NO. 3	23	8	536	0.2087E+01	0.1979E+03	0.1017E+01	0.4789E-01	38.648	2.879
DUANE MODEL AIRBORNE INFRARED RECEIVER IN-HOUSE									
	SYSDO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 1	27	65	2500	0.5206E+00	0.8233E+00	0.4397E+00	0.1615E+00	13.259	0.020

TABLE 4.4 (Continued)

DUANE MODEL
AIRBORNE
SYSTEM - RADAR
IN-HOUSE

	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 1	27	103	798	0.5368E+00	0.1420E+00	0.4653E+00	0.5025E+00	18.988	0.129
R2 NO. 2	27	127	1097	0.6152E+00	0.4173E+00	0.5418E+00	0.3751E+00	14.589	0.161
R2 NO. 3	27	65	399	0.5403E+00	0.1972E+00	0.4554E+00	0.6722E+00	23.697	0.422
R2 NO. 4	25	347	1192	0.6152E+00	0.8851E-01	0.5716E+00	0.3981E+00	10.174	0.060
R2 NO. 5	27	316	2500	0.6990E+00	0.6634E+00	0.6470E+00	0.1458E+00	6.882	0.039
R2 NO. 6	25	371	3981	0.9267E+00	0.6721E+01	0.8632E+00	0.3756E+01	20.566	1.295

DUANE MODEL
AIRBORNE
SYSTEM - LASER
IN-HOUSE

	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	21	27	760	0.4521E+00	0.5103E+00	0.3848E+00	0.6238E-01	18.207	0.025
R1 NO. 2	21	19	500	0.6206E+00	0.4627E+01	0.4242E+00	0.5857E-01	14.301	0.115

DUANE MODEL
AIRBORNE
SYSTEM - LASER
IN-HOUSE

	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	20	17	747	0.5269E+00	0.3344E+01	0.3712E+00	0.6920E-01	20.557	0.048
R3 NO. 2	20	17	782	0.5151E+00	0.3196E+01	0.3629E+00	0.2094E+00	27.446	0.184

TABLE 4.4 (Continued)

DUANE MODEL
 AIRBORNE
 SYSTEM-INSTALLED
 IN-HOUSE

	SYSD	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RZ
R1 NO. 1	23	17	536	7.1269E+01	0.5746E+02	0.8312E+00	0.2330E+00	30.776	0.888
R1 NO. 2	23	11	785	0.8859E+00	0.5240E+02	0.5012E+00	0.2671E+00	30.026	2.159
R1 NO. 3	23	5	521	0.1668E+01	0.1985E+03	0.5823E+00	0.7828E-01	59.181	27.885
R1 NO. 4	23	9	711	0.2088E+01	0.2483E+03	0.1081E+01	0.4644E-01	36.773	11.888

TABLE 4.4 (Continued)

DUANE MODEL
FAILURE
SYSTEM - INFORMED
FIELD

	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	24	3	227	0.1523E+01	0.1103E+03	0.5596E+00	0.1190E+00	65.395	20.200
R3 NO. 2	24	3	344	0.0545E+00	0.9511E+02	0.3140E+00	0.0733E-01	70.232	6.502
R3 NO. 3	24	3	769	0.5173E+00	0.9437E+02	0.1901E+00	0.1034E+00	72.626	1.277
R3 NO. 4	24	4	411	0.1319E+01	0.1437E+03	0.5759E+00	0.0041E-01	54.760	45.063
R3 NO. 5	24	3	433	0.1598E+01	0.2176E+03	0.5073E+00	0.1097E+00	65.903	71.009
R3 NO. 6	24	3	472	0.9026E+00	0.1397E+03	0.3316E+00	0.1025E+00	67.767	13.316
R3 NO. 7	24	6	1056	0.6122E+00	0.3537E+02	0.3565E+00	0.3973E-01	30.321	0.159
R3 NO. 8	24	3	324	0.1300E+01	0.1476E+03	0.5136E+00	0.1042E+02	60.533	0.520
R3 NO. 9	24	3	440	0.4901E+00	0.4677E+02	0.1001E+00	0.1594E+00	69.601	1.009
R3 NO. 10	24	4	519	0.9761E+00	0.1254E+03	0.4261E+00	0.1940E+00	104.596	1.302
R3 NO. 11	24	4	349	0.0450E+00	0.6777E+02	0.3602E+00	0.4889E-01	74.710	0.924
R3 NO. 12	24	3	255	0.1660E+01	0.1315E+03	0.6098E+00	0.0978E-01	66.032	16.000
R3 NO. 13	24	3	390	0.0590E+00	0.1087E+03	0.3159E+00	0.1310E+00	69.109	10.376
R3 NO. 14	24	4	563	0.1010E+01	0.1427E+03	0.4409E+00	0.5619E-01	57.527	5.014
R3 NO. 15	24	3	307	0.4452E+00	0.2600E+02	0.1637E+00	0.676E+00	69.345	2.690
R3 NO. 16	24	3	345	0.0151E+00	0.8963E+02	0.2995E+00	0.1224E+00	76.033	6.540
R3 NO. 17	24	3	705	0.1278E+01	0.2984E+03	0.4694E+00	0.1345E+00	70.116	7.616
R3 NO. 18	24	4	448	0.5089E+00	0.4255E+02	0.2570E+00	0.5886E-01	60.016	0.130
R3 NO. 19	24	4	529	0.9255E+00	0.1183E+03	0.4040E+00	0.4556E-01	54.090	5.323
R3 NO. 20	24	4	354	0.1170E+01	0.1083E+03	0.5108E+00	0.1065E+00	53.246	22.090

DUANE MODEL
DAIRBORNE
SYSTEM-IMPAIRED
FIELD (CONTINUED)

		SYS=0	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3	NO.21	24	4	671	0.7320E+00	0.1012E+03	0.3199E+00	0.1465E+00	54.898	1.531
R3	NO.22	24	3	314	0.6311E+00	0.5506E+02	0.2319E+00	0.9101E-01	64.774	10.476
R3	NO.23	24	4	378	0.1560E+01	0.1563E+03	0.6850E+00	0.6324E-01	53.286	36.354
R3	NO.24	24	4	385	0.6000E+00	0.3819E+02	0.2619E+00	0.5961E-01	57.160	0.346
R3	NO.25	24	3	477	0.8239E+00	0.1257E+03	0.3027E+00	0.8507E-01	83.072	2.095
R3	NO.26	24	3	393	0.5328E+00	0.5000E+02	0.1958E+00	0.1656E+00	74.420	0.336

DUAL IN-HOUSE
TYPE-SCANNER
MODEL-VISUAL SCAN

	SVSNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
RZ	NO. 1	22	29	766	0.4521E+00	0.4393E+01	0.4020E+00	0.2534E+00	13.456	0.262
RZ	NO. 2	22	41	549	0.8310E+00	0.6293E+01	0.6514E+00	0.6209E+01	13.460	0.323

TABLE 4.4 (Continued)

I H M M O D E L A I R B O R N E A N T E N N A I N - M O U S E									
R2 NO.	1	25	SVSND	NO.FAIL	HOURS	P1	P2	P3	P4
R2 NO. 1	1	25	1584	6	1584	0.3490E-02	0.5960E-07	0.1000E+00	
R2 NO. 2	29	27	1400	29	1400	0.2217E-01	0.1805E+01	0.7785E-07	
R2 NO. 3	8	27	400	8	400	0.3324E-01	0.5831E+01	0.3543E-06	
R2 NO. 4	21	27	1200	21	1200	0.1037E-01	0.1117E+02	0.7259E-02	
									RE
									1.561
									1.724
									2.431
									0.011

I H M M O D E L A I R B O R N E H A D A R I N - M O U S E									
R2 NO.	1	27	SVSND	NO.FAIL	HOURS	P1	P2	P3	P4
R2 NO. 1	162	27	4988	162	4988	0.4002E-01	0.4823E+03	0.5960E-07	
R2 NO. 2	43	27	1000	43	1000	0.1114E-01	0.3135E+02	0.7735E-02	
R2 NO. 3	382	25	2176	382	2176	0.9423E-01	0.2130E+03	0.3465E-02	
R2 NO. 4	315	25	3984	315	3984	0.9246E-01	0.5960E-07	0.5324E+00	
R2 NO. 5	27	27	400	27	400	0.3725E-08	0.2974E+02	0.7303E-02	
R2 NO. 6	42	27	1300	42	1300	0.8150E-02	0.3102E+02	0.6248E-02	
									RE
									2.015
									0.004
									0.019
									1.232
									0.009
									0.002

TABLE 4.4 (Continued)

ITEM MODEL AIRBORNE DISPLAY IN-HOUSE									
	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 2	27	8	400	0.1792E-01	0.1589E+01	0.3562E+01		16.641	0.507
R2 NO. 4	27	13	800	0.1424E-01	0.2564E+01	0.3472E+01		17.481	0.263
R2 NO. 5	27	63	4996	0.1456E-01	0.2111E+01	0.5960E-07		17.043	1.390
R2 NO. 6	25	11	1200	0.1145E-01	0.1293E+00	0.2244E-04		100.652	2.023

ITEM MODEL AIRBORNE COMPUTER IN-HOUSE									
	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	23	5	536	0.1610E-01	0.8690E-01	0.5215E-07		11.259	1.600
R1 NO. 4	21	9	500	0.2320E-09	0.8908E+01	0.8072E-02		8.040	0.027
R1 NO. 5	21	10	760	0.2369E-01	0.1410E+00	0.6153E-07		272.903	3.233

TABLE 4.4 (Continued)

IBM MODEL
AIRBORNE
COMPUTER
IN-MOUSE

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2	NO. 2	27	77	3994	0.1876E-01	0.5960E-07	0.8217E+03		49.281	1.065
R2	NO. 3	27	12	400	0.2953E-01	0.1086E+01	0.1682E+01		11.209	2.108
R2	NO. 4	27	27	1400	0.2066E-01	0.1134E+00	0.1543E+05		20.854	1.870
R2	NO. 5	27	14	300	0.2083E-01	0.1257E+00	0.4240E+05		43.886	2.187

IBM MODEL
AIRBORNE
LASER TRANSMITTER
IN-MOUSE

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 2	21	7	760	0.1250E-01	0.1245E+00	0.6892E-07		286.849	2.560

IBM MODEL
AIRBORNE
LASER TRANSMITTER
IN-MOUSE

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3	NO. 1	20	7	782	0.1452E-01	0.1708E+06	0.1923E-06		138.997	2.419
R3	NO. 2	20	11	767	0.1408E-02	0.9548E+01	0.6661E-02		20.508	0.041

TABLE 4.4 (Continued)

IBM MODEL AIRBORNE LASER RECEIVER IN-HOUSE									
R1 NO. 1	21	10	760	0.1005E-01	0.2279E+01	0.1155E-06	P4	RBAR	RE
								126,710	1,000
IBM MODEL AIRBORNE LASER RECEIVER IN-HOUSE									
R3 NO. 1	20	4	767	0.6131E-02	0.4002E+00	0.7221E+01	P4	RBAR	RE
								157,302	0,300
R3 NO. 2	20	6	702	0.3235E-01	0.5087E+00	0.2901E-06	P4	RBAR	RE
								34,010	1,052
IBM MODEL AIRBORNE LASER X-MTR / RCVR IN-HOUSE									
R1 NO. 1	21	17	760	0.3010E-01	0.2615E+00	0.2008E-05	P4	RBAR	RE
								193,250	1,077
R1 NO. 2	21	10	500	0.2273E-01	0.1272E+01	0.2720E+00	P4	RBAR	RE
								7,043	0,060
IBM MODEL AIRBORNE LASER X-MTR / RCVR IN-HOUSE									
R3 NO. 1	20	14	702	0.2643E-01	0.5007E-02	0.1039E-02	P4	RBAR	RE
								123,085	2,051
R3 NO. 2	20	15	767	0.2393E-01	0.2540E+00	0.2240E-04	P4	RBAR	RE
								352,300	2,079

TABLE 4.4 (Continued)

I B M M O D E L A I R B O R N E I N F R A R E D R E C E I V E R I N - H O U S E									
	SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	23	5	711	0.6417E-02	0.5960E-07	0.1000E+00		27.413	1.666
R1 NO. 2	23	5	705	0.4610E-02	0.1753E+00	0.1000E+00		16.927	1.822
R1 NO. 3	23	6	536	0.1294E-01	0.5960E-07	0.1000E+00		15.634	1.400
I B M M O D E L A I R B O R N E I N F R A R E D R E C E I V E R I N - H O U S E									
	SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 1	27	65	2500	0.2297E-01	0.1743E+02	0.1525E-01		4.730	0.003
I B M M O D E L A I R B O R N E S Y S T E M - R A D A R I N - H O U S E									
	SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 1	27	103	798	0.6225E-01	0.5570E+02	0.1016E-01		3.555	0.005
R2 NO. 2	27	127	1097	0.4964E-01	0.7079E+02	0.4715E-02		1.947	0.003
R2 NO. 3	27	65	399	0.2513E+00	0.1397E+02	0.3015E-06		66.764	2.510
R2 NO. 4	25	347	1192	0.1930E+00	0.1260E+03	0.6801E-02		2.374	0.004
R2 NO. 5	27	316	2500	0.1196E+00	0.4061E+02	0.1239E-01		3.820	0.013
R2 NO. 6	25	371	3981	0.1131E+00	0.5960E-07	0.4664E+00		14.162	1.165

TABLE 4.4 (Continued)

IBM MODEL AIRBORNE SYSTEM-LASER IN-HOUSE									
	SYSD	NO.FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R1 NO. 1	21	27	760	0.5114E-01	0.3343E+00	0.1988E-04		312.792	2.230
R1 NO. 2	21	19	500	0.4936E-01	0.2622E+01	0.2470E-04		34.117	2.112

IBM MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

	SYSD	NO.FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R3 NO. 1	20	17	767	0.2619E-01	0.5602E-01	0.2013E-04		306.990	2.443
R3 NO. 2	20	17	782	0.3132E-01	0.3266E-01	0.2814E-04		132.819	2.882

IBM MODEL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

	SYSD	NO.FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R1 NO. 1	23	17	536	0.3305E-01	0.5960E+07	0.1000E+00		20.105	1.186

TABLE 4.4 (Continued)

I B M M O D E L
A I R B O R N E
S Y S T E M - I N F H A W E D
F I E L D

	SYSD	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 4	24	4	411	0.9204E-02	0.4406E+00	0.4496E+00		11.352	2.101
R3 NO. 7	24	8	1056	0.9611E-02	0.1550E+01	0.2881E+06		143.409	2.367
R3 NO. 10	24	4	519	0.7345E-02	0.5960E-07	0.4670E+00		188.242	1.734
R3 NO. 11	24	4	349	0.8772E-02	0.1000E+01	0.1352E+00		2.230	0.000
R3 NO. 14	24	4	563	0.7177E-02	0.5803E+00	0.2010E+01		7.078	0.246
R3 NO. 18	24	4	448	0.4742E-02	0.1800E+01	0.0064E-01		6.883	0.026
R3 NO. 19	24	4	529	0.8250E-02	0.5018E+00	0.6742E+00		3.055	0.041
R3 NO. 20	24	4	354	0.1414E-01	0.6687E+02	0.6240E-07		13.665	1.561
R3 NO. 21	24	4	671	0.7870E-02	0.4081E+00	0.3530E+06		83.685	3.319
R3 NO. 23	24	4	378	0.1103E-01	0.5960E-07	0.1079E+03		14.755	1.972
R3 NO. 24	24	4	385	0.1371E-01	0.1168E+03	0.6029E-07		226.571	3.187

I B M M O D E L
A I R B O R N E
S Y S T E M - V I S U A L S C A N
I N - H O U S E

	SYSD	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 1	22	29	766	0.5310E-01	0.2119E+00	0.4723E+06		56.109	1.546
R2 NO. 2	22	41	549	0.7882E-01	0.1683E+00	0.1502E+04		32.674	1.722

TABLE 4.4 (Continued)

EXPONENTIAL MODEL
AIRBORNE
ANTENNA
IN-HOUSE

	SYSD	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 1	25	6	1584	0.3545E+03	0.1000E+00	0.1000E+00		30.562	1.250
R2 NO. 2	27	24	1400	0.5193E+02	0.7181E+00	0.1733E-02		5.936	0.035
R2 NO. 4	27	21	1200	0.1931E+03	0.9409E+00	0.2190E-03		4.661	0.011
R2 NO. 5	27	52	6000	0.7429E+02	0.9073E+00	0.3421E-02		19.038	0.318

EXPONENTIAL MODEL
AIRBORNE
DISPLAY
IN-HOUSE

	SYSD	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 1	27	13	1100	0.5938E+02	0.3725E-08	0.3812E-01		11.497	1.093
R2 NO. 3	25	50	3992	0.5130E+02	0.1000E+00	0.1335E+02		12.919	1.026
R2 NO. 4	27	13	800	0.3944E+03	0.9482E+00	0.1505E-03		5.029	0.020
R2 NO. 5	27	63	4996	0.6544E+02	0.4572E+00	0.3371E-02		8.408	0.308
R2 NO. 6	25	11	1200	0.1181E+03	0.8580E+00	0.1591E-02		10.330	0.050

TABLE 4.4 (Continued)

EXPONENTIAL MODEL
AIRBORNE
COMPUTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 2	27	77	3994	0.5413E+02	0.9595E+00	0.4524E-02		6.028	0.066
R2 NO. 3	27	12	400	0.2675E+02	0.5960E-07	0.5708E-01		8.851	1.103
R2 NO. 4	27	27	1400	0.4026E+02	0.1118E-07	0.5219E-01		21.264	1.041
R2 NO. 5	27	14	800	0.1742E+03	0.8715E+00	0.3248E-03		2.730	0.011

EXPONENTIAL MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 2	21	7	760	0.1192E+03	0.9534E+00	0.2249E-02		8.370	0.008

EXPONENTIAL MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	20	7	782	0.1192E+03	0.0929E+00	0.1859E-02		15.625	0.050
R3 NO. 2	20	11	767	0.7755E+03	0.9846E+00	0.1051E-03		18.069	0.036

EXAMINER'S USE ONLY

R1	NO. 1	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
		21	10	760	0.5842E+02	0.9295E+00	0.6325E-02		12.020	0.081

EXPERIMENTAL MODEL
TRANSMITTER
RECEIVER

RS	NO. 1	20	4	767	0.6993E+03	0.9950E+00	0.4037E-03	P4	P04R	RE
RS	NO. 2	20	6	782	0.2633E+02	0.8240E+02	0.4077E+02		24.448	1.254

EXPERIMENTAL MODEL
XIAISER-H
PROBONEX
ENRNE TR/PCVR

	SY8NO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RZ
R3	NO. 2	20	15	767	0.1152E+03	0.9640E+00	0.7464E-03	16.000	0.015

EXPERIMENTAL MODEL
ENCOURAGE RECEIVED
MAINFRAME
IN-HOUSE

R1	NO. 1	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RSAR	RZ
		23	5	711	0.200E+03	0.1000E+00	0.1000E+00		39.031	1.333

TABLE 4.4 (Continued)

EXPONENTIAL MODEL AIRBORNE INTEGRATED RECEIVER IN-HOUSE									
R2 NO.	1	27	65	2500	0.3358E+07	0.9003E+00	0.1203E+02	P4	RE
									5.869
									0.003
EXPONENTIAL MODEL AIRBORNE SYSTEM-RADAR IN-HOUSE									
R2 NO.	5	27	316	2500	0.6401E+01	0.7392E+00	0.1716E+02	P4	RE
									10.534
									0.135
									1.026
EXPONENTIAL MODEL AIRBORNE SYSTEM-LASER IN-HOUSE									
R1 NO.	1	21	27	750	0.2802E+02	0.9528E+00	0.2608E+02	P4	RE
									7.130
									0.014
									0.030
EXPONENTIAL MODEL AIRBORNE SYSTEM-LASER IN-HOUSE									
R3 NO.	1	20	17	767	0.6773E+02	0.9407E+00	0.1325E+02	P4	RE
									12.151
									0.016

TABLE 4.4 (Continued)

EXPONENTIAL MODEL AIRBORNE SYSTEM - INFRARED IN-HOUSE									
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
1	2	3	4	5	6	7	8	9	10
SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	RE	RE
R1	NO. 1	23	17	536	0.370E+02	0.313E+02	0.367E+01	32,100	1,067
R1	NO. 2	23	11	785	0.526E+02	0.100E+00	0.146E+03	16,657	1,112
EXPONENTIAL MODEL AIRBORNE SYSTEM - INFRARED FIELD									
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
1	2	3	4	5	6	7	8	9	10
SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	RE	RE
R2	NO. 7	24	8	1056	0.155E+03	0.904E+00	0.146E+02	6,492	0,022
R2	NO. 10	24	4	519	0.145E+03	0.264E+01	0.645E+01	12,197	0,226
R3	NO. 11	24	4	349	0.900E+02	0.946E+00	0.826E+02	2,093	0,006
R3	NO. 16	24	4	563	0.126E+03	0.764E+00	0.622E+02	6,700	0,235
R3	NO. 18	24	4	448	0.115E+03	0.100E+01	0.634E+02	10,597	0,015
R3	NO. 19	24	4	529	0.107E+03	0.795E+00	0.786E+02	2,657	0,032
R3	NO. 20	24	4	354	0.700E+02	0.475E+02	0.100E+00	11,610	1,424
R3	NO. 23	24	4	378	0.910E+02	0.100E+00	0.372E+03	12,055	1,598
R3	NO. 24	24	4	385	0.127E+03	0.944E+00	0.303E+02	7,381	0,000
EXPONENTIAL MODEL AIRBORNE SYSTEM - VISUAL IN-HOUSE									
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
1	2	3	4	5	6	7	8	9	10
SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	RE	RE
R2	NO. 1	22	29	766	0.101E+02	0.619E+00	0.107E+01	7,958	0,564
R2	NO. 2	22	41	549	0.101E+02	0.639E+00	0.166E+02	9,610	0,230

TABLE 4.4 (Continued)

LLOYD - LIPOM MODEL

AIRBORNE
RADAR
IN-HOUSE

SYBNO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 1	25	6	1500	0.6012E+02	0.3772E+00		20,550	0.320
R2 NO. 2	27	20	1400	0.3093E+02	0.7155E+03		20,317	0.635
R2 NO. 3	27	0	400	0.2747E+02	0.2220E+03		17,090	0.832
R2 NO. 4	27	21	1200	0.2720E+02	0.3379E+03		30,012	0.770
R2 NO. 5	27	52	6000	0.7523E+02	0.3430E+00		26,735	0.417

LLOYD - LIPOM MODEL

AIRBORNE
RADAR
IN-HOUSE

SYBNO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 1	27	162	4000	0.2051E+02	0.1920E+03		19,929	0.912
R2 NO. 2	27	43	1000	0.9757E+01	0.5307E+02		49,546	0.906
R2 NO. 3	25	382	2176	0.2357E+01	0.4265E+01		40,997	0.900
R2 NO. 4	25	315	3004	0.1174E+02	0.6967E+03		15,137	0.699
R2 NO. 5	27	27	400	0.7550E+01	0.1910E+02		16,940	0.930
R2 NO. 6	27	42	1300	0.1245E+02	0.8613E+02		52,597	0.903

TABLE 4.4 (Continued)

LLOYD - LIPUM MODEL									
AIRBORNE DISPLAY IN-HOUSE									
	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 1	27	13	1100	0.6355E+02	0.8442E+03			10,161	0,062
R2 NO. 2	27	8	400	0.3792E+02	0.4674E+03			20,187	0,734
R2 NO. 3	25	50	3992	0.4942E+02	0.1466E+04			11,027	0,013
R2 NO. 4	27	13	800	0.1448E+02	0.7814E+03			29,452	0,701
R2 NO. 5	27	63	4996	0.6519E+02	0.1665E+04			11,355	0,520
R2 NO. 6	25	11	1200	0.7739E+02	0.1899E+04			43,514	0,400

LLOYD - LIPUM MODEL									
AIRBORNE COMPUTER IN-HOUSE									
	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	23	5	536	0.2825E+02	0.7350E+04			15,839	0,430
R1 NO. 2	23	3	785	0.1065E+03	0.1092E+04			0,048	0,0
R1 NO. 3	23	3	521	0.1687E+03	0.6360E+04			10,948	1,014
R1 NO. 4	21	9	500	0.3341E+02	0.3960E+03			38,447	0,834
R1 NO. 5	21	10	760	0.2698E+02	0.1836E+03			81,733	0,761

TABLE 4.4 (Continued)

LL OYD - L I P O W
A I R B O R N E
C O M P U T E R
I N - M O U S E

	SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO, 1	26	3	407	0.8450E+02	0.2229E+04			27,140	0.726
R2 NO, 2	27	77	3994	0.5310E+02	0.5927E+03			29,020	0.407
R2 NO, 3	27	12	400	0.2023E+02	0.1304E+03			8,240	0.876
R2 NO, 4	27	27	1400	0.4361E+02	0.7330E+03			10,627	0.774
R2 NO, 5	27	14	800	0.4281E+02	0.6797E+03			20,136	0.610

LL OYD - L I P O W
A I R B O R N E
L A S E R T R A N S M I T T E R
I N - M O U S E

	SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO, 1	21	3	500	0.1177E+03	0.1632E+04			6,403	0.055
R1 NO, 2	21	7	760	0.6479E+02	0.7210E+03			60,130	0.509

LL OYD - L I P O W
A I R B O R N E
L A S E R T R A N S M I T T E R
I N - M O U S E

	SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO, 1	20	7	782	0.5505E+02	0.4952E+03			57,150	0.027
R3 NO, 2	20	11	767	0.3500E+02	0.2063E+03			60,793	0.031

TABLE 4.4 (Continued)

R1		NO, 1		21	10	760	0,4900E+02	0,5216E+03	P2	P3	P4	NSAR	RE
LLOYD - LIPOM MODEL													
AIRBORNE													
LASER RECEIVER													
IN-HOUSE													
SYSNO NO,FALL HOURS P1 P2 P3 P4													
R1 NO, 1 21 10 760 0,4900E+02 0,5216E+03													
58,370 0,389													

	SYNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
RS NO, 1	20	4	747	0,9842E+02	0,6891E+03			329,260	0,092
RS NO, 2	20	6	792	0,3069E+02	0,2207E+03			21,363	0,979

LLOYD-LIPSON MODEL										
AIRBORNE										
LASER XMT/R/CVR										
IN-HOUSE										
	BYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	21	17	760	0.273E+02	0.1770E+03			88,302	0,500
R1	NO. 2	21	10	500	0.3435E+02	0.1730E+03			41,543	0,360

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TABLE 4.4 (Continued)

LLOYD - LIPOM MODEL									
AIRBORNE									
LASER XMT R / RCVR									
IN-HOUSE									
SVNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
03	NO. 1	20	14	782	0.2605E+02	0.2317E+03		44,992	0.033
03	NO. 2	20	15	767	0.2652E+02	0.9126E+02		106,781	0.024

LLOYD - LIPOM MODEL									
AIRBORNE									
IN-FAA RECD RECEIVER									
IN-HOUSE									
SVNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
01	NO. 1	23	5	711	-0.2324E+03	-0.2046E+06		25,036	0.326
01	NO. 2	23	5	785	0.1146E+03	-0.1212E+05		12,712	0.012
01	NO. 3	23	8	936	0.3530E+02	-0.1731E+05		17,557	0.553

LLOYD - LIPOM MODEL									
AIRBORNE									
IN-FAA RECD RECEIVER									
IN-HOUSE									
SVNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
02	NO. 1	27	65	2500	0.2036E+02	0.1705E+03		65,860	0.700

TABLE 4.4 (Continued)

LLOYD - LIPOM MODEL									
AIRBORNE SYSTEM - RADAR IN-MOUSE									
	SYBNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 1	27	103	790	0.370E+01	0.9260E+01			49,169	0.911
R2 NO. 2	27	127	1097	0.5033E+01	0.1630E+02			33,223	0.909
R2 NO. 3	27	65	399	0.2070E+01	0.4326E+01			20,526	0.926
R2 NO. 4	25	367	1192	0.2025E+01	0.3103E+01			39,490	0.927
R2 NO. 5	27	316	2500	0.9645E+01	0.2020E+02			36,000	0.900
R2 NO. 6	25	371	3901	0.9203E+01	0.0033E+03			13,000	0.900

LLOYD - LIPOM MODEL
AIRBORNE
SYSTEM - LASER
IN-MOUSE

	SYBNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	21	27	769	6.1343E+02	9.4172E+02			132,175	0.712
R1 NO. 2	21	19	500	9.1651E+02	0.0371E+02			35,575	0.907

LLOYD - LIPOM MODEL
AIRBORNE
SYSTEM - LASER
IN-MOUSE

	SYBNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	20	17	767	0.2669E+02	0.1011E+03			109,543	0.705
R3 NO. 2	20	17	792	0.2163E+02	9.2032E+03			50,533	0.809

TABLE 4.4 (Continued)
 LLOYD-LIPOM MODEL
 AIRBORNE
 SYSTEMS IMPARED
 IN-HOUSE

RI NO, 1	23	17	536	0.5775E+01	0.6889E+04	P1	P2	P3	P4	RBAR	RE
RI NO, 2	23	11	785	0.4496E+02	0.1668E+04					32.360	0.979
RI NO, 3	23	5	521	0.1047E+03	0.1658E+04					16.570	0.880
RI NO, 4	23	9	711	0.7034E+02	0.1938E+05					16.027	1.279
										10.730	0.300

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TABLE 4.4 (Continued)
 LLOYD-LIPON MODEL
 AIRBORNE
 SYSTEM INFRARED
 FIELD

R3 NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	24	24	3	227	0.3106E+02	-0.3890E+04																						0.058	0.422
R3 NO. 2	24	24	3	344	0.8643E+02	0.1810E+04																						2.147	0.016
R3 NO. 3	24	24	3	789	0.1283E+03	0.1890E+04																						9.951	0.153
R3 NO. 4	24	24	4	411	0.9197E+02	0.7309E+03																						10.528	1.411
R3 NO. 5	24	24	3	433	0.8761E+03	-0.8876E+04																						4.651	0.317
R3 NO. 6	24	24	3	472	0.1125E+03	0.3061E+04																						12.122	0.868
R3 NO. 7	24	24	8	1056	0.8721E+02	0.1807E+04																						51.924	0.517
R3 NO. 8	24	24	3	324	-0.6699E+02	-0.2467E+03																						4.776	0.046
R3 NO. 9	24	24	3	440	0.7952E+02	0.1511E+04																						55.978	0.429
R3 NO. 10	24	24	4	519	0.1515E+03	0.2280E+04																						12.836	0.235
R3 NO. 11	24	24	4	349	0.7654E+02	0.9743E+03																						13.828	0.170
R3 NO. 12	24	24	3	255	0.1684E+02	-0.8411E+04																						10.404	0.438
R3 NO. 13	24	24	3	390	0.2071E+02	-0.5631E+04																						12.661	0.650
R3 NO. 14	24	24	4	563	0.1253E+03	0.4017E+04																						9.045	0.208
R3 NO. 15	24	24	3	307	0.4019E+02	0.4565E+03																						30.038	0.377
R3 NO. 16	24	24	3	345	-0.1495E+03	-0.2103E+05																						13.679	6.234
R3 NO. 17	24	24	3	705	-0.1493E+03	-0.1067E+06																						15.522	0.480
R3 NO. 18	24	24	4	448	0.8948E+02	0.9161E+03																						103.874	0.580
R3 NO. 19	24	24	4	520	0.1078E+03	0.2953E+04																						4.541	0.801
R3 NO. 20	24	24	4	354	0.7342E+02	0.6017E+03																						11.465	1.378

TABLE 4.4 (Continued)
LLOYD - LIPOM MODEL
AIRBORNE
SYSTEM - INFRARED
FIELD
(CONTINUED)

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO.21	24	4	671	0.1211E+03	0.4669E+04			36.147	0.041
R3	NO.22	24	3	314	0.5061E+02	0.6440E+03			4.194	0.000
R3	NO.23	24	4	378	0.7720E+02	-0.2513E+04			10.266	1.021
R3	NO.24	24	4	305	0.6003E+02	0.4888E+03			36.303	0.500
R3	NO.25	24	3	477	0.1331E+03	0.3239E+04			1.327	0.003
R3	NO.26	24	3	393	0.1056E+03	0.2097E+04			77.101	0.333

LLOYD - LIPOM MODEL
AIRBORNE
SYSTEM - VISUAL
IN-HOUSE

	SYSD	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	22	29	766	0.1655E+02	0.5342E+02			27.943	0.572
R2	NO. 2	22	41	549	0.1135E+02	0.5999E+02			19.749	0.716

TABLE 4.4 (Continued)

ARUEP MODEL
AIRBORNE
ANTENNA
IN-MOUSE

R2	NO. 1	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R2	NO. 1	25	6	1584	0.1277E+03	-0.917AE+03			15.395	0.237
R2	NO. 2	27	29	1400	0.3855E+02	7.2328E+02			25.804	0.563
R2	NO. 3	27	8	499	0.2671E+02	0.8551E+01			15.156	0.812
R2	NO. 4	27	21	1200	0.2532E+02	0.1485E+02			31.730	0.745
R2	NO. 5	27	52	6000	0.7453E+02	0.4388E+02			21.558	0.362

ARUEP MODEL
AIRBORNE
RADAR
IN-MOUSE

R2	NO. 1	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R2	NO. 1	27	162	4988	0.1999E+02	0.1095E+02			18.807	0.908
R2	NO. 2	27	43	1000	0.8461E+01	0.5850E+01			36.972	0.932
R2	NO. 3	25	382	2176	0.2119E+01	0.2311E+01			41.701	0.962
R2	NO. 4	25	315	3994	0.1156E+02	-0.4295E+02			14.915	1.194
R2	NO. 5	27	27	400	0.7295E+01	0.2374E+01			15.193	0.941
R2	NO. 6	27	42	1300	0.1068E+02	0.7525E+01			37.846	0.931

TABLE 4.4 (Continued)

A R O E F M O D E L A I R B O R N E D I S P L A Y I N - H O U S E									
	SYSD NO.	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 1	27	13	1100	0.6297E+02	0.1412E+02			9.788	0.858
R2 NO. 2	27	8	400	0.3488E+02	0.1396E+02			17.468	0.697
R2 NO. 3	25	50	3992	0.4900E+02	-0.2718E+02			10.854	0.845
R2 NO. 4	27	13	800	0.4248E+02	0.2102E+02			25.449	0.659
R2 NO. 5	27	63	4996	0.6497E+02	0.3435E+02			10.531	0.455
R2 NO. 6	25	11	1200	0.7374E+02	0.3900E+02			32.577	0.382

A R O E F M O D E L A I R B O R N E C O M P U T E R I N - H O U S E									
	SYSD NO.	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	23	5	536	0.4738E+02	-0.8871E+02			13.763	0.689
R1 NO. 2	23	3	785	0.1067E+03	0.1106E+02			0.024	0.0
R1 NO. 3	23	3	521	0.1680E+03	0.3284E+02			10.531	0.963
R1 NO. 4	21	9	500	0.3058E+02	0.1376E+02			20.201	0.826
R1 NO. 5	21	10	740	0.2274E+02	0.1126E+02			46.945	0.755

TABLE 4.4 (Continued)
ARDEF MODEL
AIRBORNE
COMPUTER
IN-HOUSE

	SYSDO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 1	26	3	407	0.6291E+02	0.3625E+02			24.248	0.623
R2 NO. 2	27	77	3994	0.5192E+02	0.2451E+02			16.475	0.229
R2 NO. 3	27	12	400	0.2804E+02	0.4632E+01			8.002	0.067
R2 NO. 4	27	27	1400	0.4269E+02	0.1829E+02			17.745	0.743
R2 NO. 5	27	14	800	0.4195E+02	0.1966E+02			17.109	0.561

ARDEF MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

	SYSDO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	21	3	500	0.1258E+03	0.3303E+02			4.304	0.031
R1 NO. 2	21	7	760	0.5774E+02	0.2268E+02			50.560	0.426

ARDEF MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

	SYSDO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	20	7	782	0.5397E+02	0.1762E+02			25.197	0.553
R3 NO. 2	20	11	767	0.3318E+02	0.1091E+02			32.440	0.806

TABLE 4.4 (Continued)

AROE F MODEL												
AIRBORNE												
LASER RECEIVER												
IN-MOUSE												
SYSNO		NO.FAIL		HOURS		P1	P2	P3	P4	REAR	RE	
R1	NO. 1	21	10	740	0.4816E+02	0.2023E+02				32,503	0,274	

A R O E F M O D E L												
A I R B O R N E												
L A S E R R E C E I V E R												
I N - M O U S E												
		SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE		
R3	NO. 1	20	4	767	0.5977E+02	0.1679E+02			88.338	1.060		
R3	NO. 2	20	6	762	0.2982E+02	0.8416E+01			19.740	0.988		

AROE F MODEL												
AIRBORNE												
LASER XMT R / RCVR												
IN-MOUSE												
SV8NO NO,FALL				MDURS	P1	P2	P3	P4	REAR	RE		
R1	NO. 1	21	17	760	0.2404E+02	0.1235E+02			56.456	0.474		
R1	NO. 2	21	10	500	0.3391E+02	0.1082E+02			25.949	0.234		

TABLE 4.4 (Continued)

ARDEF MODEL
AIRBORNE
LASER XMTN / RCVR
IN-HOUSE

RS	NO. 1	20	14	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
RS	NO. 2	20	15		767	0.236E+02	0.1160E+02			31.415	0.838
					767	0.200E+02	0.7626E+01			53.872	0.840

TABLE 4.4 (Continued)

ARUEF MODEL AIRBORNE INFRARED RECEIVER IN-HOUSE									
	CY8NO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO, 1	23	5	711	0.2676E+02	-0.9102E+03			17.326	0.285
R1 NO, 2	23	5	785	0.1177E+03	-0.7729E+02			12.566	0.783
R1 NO, 3	23	8	536	0.5290E+02	-0.1550E+03			15.226	0.509
ARUEF MODEL AIRBORNE INFRARED RECEIVER IN-HOUSE									
	SY8NO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO, 1	27	65	2500	0.1713E+02	0.1301E+02			66.902	0.798
ARUEF MODEL AIRBORNE SYSTEM-RAOAH IN-HOUSE									
	SY8NO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO, 1	27	103	799	0.3376E+01	0.2736E+01			37.765	0.929
R2 NO, 2	27	127	1097	0.4718E+01	0.3586E+01			29.524	0.911
R2 NO, 3	27	65	399	0.2708E+01	0.1480E+01			25.260	0.934
R2 NO, 4	25	327	1192	0.1876E+01	0.1925E+01			35.443	0.934
R2 NO, 5	27	316	2500	0.5310E+01	0.5368E+01			33.955	0.795
R2 NO, 6	25	371	3981	0.9197E+01	-0.5555E+02			14.139	1.770

TABLE 4.4 (Continued)

AROE F MODEL
AIRBORNE
SYSTEM- L A B E R
IN-MOUSE

	SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	21	27	760	0.1055E+02	0.5052E+01			79.665	0.700
R1 NO. 2	21	19	500	0.1593E+02	0.8150E+01			26.637	0.505

AROE F MODEL
AIRBORNE
SYSTEM- L A B E R
IN-MOUSE

	SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	20	17	767	0.2220E+02	0.8005E+01			59.711	0.792
R3 NO. 2	20	17	782	0.1000E+02	0.1066E+02			36.526	0.864

AROE F MODEL
AIRBORNE
SYSTEM- I N F R A M E D
IN-MOUSE

	SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	23	17	536	0.1837E+02	-0.1279E+03			23.146	0.550
R1 NO. 2	23	11	785	0.4522E+02	-0.2770E+02			15.830	0.878
R1 NO. 3	23	5	521	0.1037E+03	-0.1816E+02			14.137	1.204
R1 NO. 4	23	9	711	0.7619E+02	-0.1297E+03			11.508	0.475

TABLE 4.4 (Continued)

AROE MODEL
AIRBORNE
SYSTEM INFORMATION
FIELD

RS NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SVSND	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
NO. FAIL	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
HOURS	227	344	789	411	633	472	1056	324	440	519	349	255	390	543	307	345	705	448	529	354
P1	0.3923E+02	0.9192E+02	0.1361E+03	0.9111E+02	0.9390E+02	0.1144E+03	0.0295E+02	0.1610E+02	0.7502E+02	0.1571E+03	0.0270E+02	0.3514E+02	0.3402E+02	0.1293E+03	0.0013E+02	0.1736E+01	0.3097E+02	0.0055E+02	0.1122E+03	0.7241E+02
P2	-0.5642E+02	0.3386E+02	0.3534E+02	0.7594E+01	-0.6660E+02	0.3648E+02	0.3631E+02	-0.2639E+03	0.3375E+02	0.3777E+02	0.2586E+02	-0.1060E+03	-0.7707E+02	0.4074E+02	0.1930E+02	-0.3490E+03	-0.5553E+03	0.2316E+02	0.4092E+02	0.7992E+01
P3																				
P4																				
RBAR	7.325	0.960	9.916	10.384	4.347	11.930	31.768	1.980	36.464	12.837	9.625	10.642	11.514	7.857	36.163	0.011	12.350	53.116	3.647	11.704
RE	0.351	0.004	0.162	1.411	0.272	0.002	0.420	0.009	0.308	0.249	0.105	0.470	0.564	0.265	0.274	0.123	0.334	0.404	0.056	1.305

TABLE 4.4 (Continued)

ARQEF MODEL
AIRBORNE
SYSTEM-INTERFACED
FIELD
(CONTINUED)

	SYSDO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 21	24	4	471	0.1123E+03	0.4756E+02			27.900	0.800
R3 NO. 22	24	3	314	0.5329E+02	0.1940E+02			2.900	0.037
R3 NO. 23	24	4	370	0.7690E+02	-0.2096E+02			10.496	1.044
R3 NO. 24	24	4	385	0.5965E+02	0.1744E+02			22.723	0.893
R3 NO. 25	24	3	477	0.1437E+03	0.4807E+02			0.016	0.0
R3 NO. 26	24	3	393	0.9917E+02	0.4016E+02			41.930	0.227

ARQEF MODEL
AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

	SYSDO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 1	22	29	766	0.1624E+02	0.6128E+01			20.581	0.455
R2 NO. 2	22	41	549	0.1117E+02	0.4857E+01			18.812	0.677

TABLE 4.4 (Continued)

S I M P L E E X P O N E N T I A L
A I R B O R N E
A N T E N N A
I N - M O U S E

R2	NO. 1	25	6	1584	0.7144E+03	-0.7251E-03	P1	P2	P3	P4	REAR	RE
R2	NO. 2	27	29	1400	0.2104E+02	0.7516E-03					11.594	0.221
R2	NO. 3	27	0	90	0.1743E+02	0.2430E-02					4.390	0.040
R2	NO. 4	27	21	1200	0.1354E+02	0.1453E-02					6.033	0.005
R2	NO. 5	27	57	6060	0.3605E+02	0.2497E-03					35.232	0.094

S I M P L E E X P O N E N T I A L
A I R B O R N E
R A D A R
I N - M O U S E

R2	NO. 1	27	162	4980	0.1462E+02	0.1568E-03	P1	P2	P3	P4	REAR	RE
R2	NO. 2	27	43	1600	0.4033E+01	0.1805E-02					6.571	0.119
R2	NO. 3	25	102	2176	0.1237E+01	0.9077E-03					7.929	0.075
R2	NO. 4	25	315	3984	0.1680E+02	-0.1863E-03					14.150	0.213
R2	NO. 5	27	27	400	0.5296E+01	0.2305E-02					12.306	0.092
R2	NO. 6	27	42	1306	0.6003E+01	0.1472E-02					4.005	0.004
											8.494	0.007

TABLE 4.4 (Continued)

S I M P L E E X P O N E N T I A L
A I R B O R N E
D I S P L A Y
I N - H O U S E

	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2 NO. 1	27	13	1100	0.5011E+02	0.3781E-03			7.773	0.437
R2 NO. 2	27	8	400	0.2213E+02	0.2060E-02			3.321	0.022
R2 NO. 3	25	50	3002	0.5370E+02	-0.3061E-04			12.072	0.974
R2 NO. 4	27	13	800	0.2314E+02	0.1350E-02			5.691	0.052
R2 NO. 5	27	63	4006	0.4975E+02	0.9812E-04			10.143	0.560
R2 NO. 6	25	11	1200	0.2731E+02	0.1456E-02			21.156	0.665

S I M P L E E X P O N E N T I A L
A I R B O R N E
C O M P U T E R
I N - H O U S E

	SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	23	5	536	0.1077E+03	-0.2291E-02			16.100	0.015
R1 NO. 2	23	3	765	0.9229E+02	0.3770E-03			0.924	0.167
R1 NO. 3	23	3	521	0.1079E+03	0.8579E-03			5.944	0.275
R1 NO. 4	21	9	500	0.1602E+02	0.2595E-02			6.760	0.032
R1 NO. 5	21	10	760	0.8080E+01	0.4020E-02			29.270	0.391

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
COMPUTER
IN-HOUSE

	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2 NO. 1	26	3	407	0.3240E+02	0.3680E-02			12.364	0.169
R2 NO. 2	27	77	3998	0.2890E+02	0.2250E-03			40.855	1.150
R2 NO. 3	27	12	400	0.2302E+02	0.8219E-03			3.702	0.163
R2 NO. 4	27	27	1400	0.2910E+02	0.4000E-03			6.623	0.112
R2 NO. 5	27	14	800	0.2470E+02	0.1155E-02			5.099	0.046

SIMPLE EXPONENTIAL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	21	3	500	0.1057E+02	0.5866E-02			32.714	0.963
R1 NO. 2	21	7	760	0.1290E+02	0.3659E-02			32.903	0.630

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

	SYSNO	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	20	7	782	0.1900E+02	0.2920E+02				29.027	0.101
R3 NO. 2	20	11	767	0.1000E+02	0.2303E+02				25.729	0.000

SIMPLE EXPONENTIAL
AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1 NO. 1	21	10	760	0.1370E+02	0.3230E+02				31.731	0.000

SIMPLE EXPONENTIAL
AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	NO.	FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3 NO. 1	20	4	767	0.0095E+01	0.4000E+02				35.063	0.022
R3 NO. 2	20	6	782	0.2002E+02	0.2620E+02				16.361	0.715

TABLE 4.4 (Continued)

	SYSNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	21	17	760	0.679E+01	0.3521E-02				34.147	0.738
R1 NO. 2	21	10	500	0.1012E+02	0.4665E-02				38.006	0.839

	SYSNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	20	14	782	0.1229E+02	0.2201E-02				13.379	0.007
R3 NO. 2	20	15	767	0.7325E+01	0.1090E-02				44.769	0.166

	SYSNO	NO.	FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	23	5	711	0.9025E+03	-0.1250E-02				22.776	0.472
R1 NO. 2	23	5	705	0.1610E+03	-0.2197E-03				16.094	1.220
R1 NO. 3	23	6	536	0.1454E+03	-0.1105E-02				15.960	0.702

SIMPLE EXPERIMENTAL

RZ	NO, 1	27	SYSD NO,FALL	HOURS	P1	P2	P3	P4	REAR	AE
					S I M P L E	E X P O N E N T I A L				
					A I R G O R N E					
					I M P A R E D	R E C E I V E R				
					I N - H O U S E					
R2	NO, 1	27	65	2500	0.6605E+01	0.9931E-03			27,000	0.387

SIMPLE EXPERIMENTAL

AIRBORNE SYSTEM-ROAD IN-MOUSE											
			SYSNO	NO,FALL	HOURS	P1	P2	P3	P4	MSAR	RE
R2	NO. 1	27	798	103	0.1975E+01	0.2040E+02				6.294	0.081
R2	NO. 2	27	1097	127	0.2975E+01	0.1111E+02				5.248	0.041
R2	NO. 3	27	399	65	0.1808E+01	0.3312E+02				5.028	0.028
R2	NO. 4	25	1192	367	0.1128E+01	0.1138E+02				10.941	0.117
R2	NO. 5	27	2500	316	0.3074E+01	0.4945E+03				21.769	0.382
R2	NO. 6	25	3981	531	0.1312E+02	-0.1747E+03				13.277	0.623

SIMP-EXPOSENTIAL

AIRBORNE SYSTEM-CLASSER IN-HOUSE												
		SYNO	NO.	FAIL	HOURS	P1	P2	P3	P4	ASAR	RE	
R1	NO. 1	21	27	760	0.3105E+01	0.4172E+02				41,249	0.760	
R1	NO. 2	21	19	500	0.7472E+01	0.3098E+02				20,309	0.257	

TABLE 4.4 (Continued)

S I M P L E E X P O N E N T I A L
A I R B U R N E
S Y S T E M - L A S E R
I N - H O U S E

	SYBNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	20	17	767	0,7221E+01	0,2855E-02			42,785	0,199
R3 NO. 2	20	17	782	0,9762E+01	0,2289E-02			7,767	0,065

S I M P L E E X P O N E N T I A L
A I R B U R N E
S Y S T E M - I N F R A R E D
I N - H O U S E

	SYBNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	23	17	534	0,4610E+02	-0,1110E-02			27,639	0,930
R1 NO. 2	23	11	785	0,5100E+02	0,4042E-04			17,029	1,121
R1 NO. 3	23	5	521	0,1072E+03	0,7252E-04			15,511	1,302
R1 NO. 4	23	9	711	0,1081E+03	-0,1100E-02			0,682	0,245

TABLE 4.4 (Continued)
SIMPLE EXPERIMENTAL
AIRBORNE
SYSTEM-IMPROVED
FIELD

RS	NO.	1	24	3	227	0.980E+02	P1	P2	P3	P4	P5	P6
RS	NO. 1	24	3	227	0.980E+02	-0.3422E-02						
RS	NO. 2	24	3	344	0.3319E+02	0.4060E-02						
RS	NO. 3	24	3	799	0.1563E+02	0.4027E-02						
RS	NO. 4	24	4	411	0.7609E+02	0.5532E-03						
RS	NO. 5	24	3	433	0.1667E+03	-0.1091E-02						
RS	NO. 6	24	3	472	0.5717E+02	0.2222E-02						
RS	NO. 7	24	6	1056	0.2731E+02	0.1830E-02						
RS	NO. 8	24	3	324	0.4789E+03	-0.1060E-01						
RS	NO. 9	24	3	440	0.1636E+02	0.6543E-02						
RS	NO. 10	24	4	519	0.1753E+02	0.4962E-02						
RS	NO. 11	24	4	349	0.2002E+02	0.5041E-02						
RS	NO. 12	24	3	255	0.1973E+03	-0.6501E-02						
RS	NO. 13	24	3	390	0.1131E+03	-0.4122E-02						
RS	NO. 14	24	4	563	0.5909E+02	0.1731E-02						
RS	NO. 15	24	3	307	0.1067E+02	0.1192E-01						
RS	NO. 16	24	3	345	0.1509E+04	-0.3286E-01						
RS	NO. 17	24	3	705	0.8807E+03	-0.4792E-02						
RS	NO. 18	24	4	448	0.1198E+02	0.5863E-02						
RS	NO. 19	24	4	529	0.5127E+02	0.1933E-02						
RS	NO. 20	24	4	354	0.6133E+02	0.6031E-03						

TABLE 4.4 (Continued)
SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-IRFARRED
FIELD
(CONTINUED)

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO.21	24	3	671	0.5013E+02	0.1794E+02		11.661	0.074
R3	NO.22	24	3	314	0.2155E+02	0.6013E+02		9.022	0.236
R3	NO.23	24	4	378	0.1178E+03	0.1227E+02		9.761	0.845
R3	NO.24	24	4	385	0.1469E+02	0.5782E+02		39.472	0.366
R3	NO.25	24	3	477	0.3221E+02	0.4106E+02		21.296	0.667
R3	NO.26	24	3	393	0.1571E+02	0.5930E+02		11.535	0.007

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO.1	22	29	746	0.8622E+01	0.1800E+02		26.293	0.611
R2	NO.2	22	41	549	0.7372E+01	0.1315E+02		10.326	0.283

TABLE 5.2

GROUND SYSTEM
ANTENNA
IN-HOUSE

		SY8NO	RBAR	RE
R3	NO. 1	1	EXPONENTIAL	EXPONENTIAL
			6.321	0.002
R3	NO. 2	1	IBM MODEL	IBM MODEL
			2.061	0.015
R3	NO. 3	10	SIMPLE EXPO	SIMPLE EXPO
			6.264	1.060

GROUND SYSTEM
ANTENNA
FIELD

		SY8NO	RBAR	RE
R1	NO. 1	12	SIMPLE EXPO	SIMPLE EXPO
			14.929	0.251
R1	NO. 2	12	SIMPLE EXPO	SIMPLE EXPO
			19.462	0.078
R1	NO. 3	5	SIMPLE EXPO	SIMPLE EXPO
			9.986	0.296
R1	NO. 4	5	IBM MODEL	EXPONENTIAL
			11.976	0.015
R1	NO. 5	5	EXPONENTIAL	EXPONENTIAL
			3.443	0.029
R1	NO. 6	5	IBM MODEL	IBM MODEL
			11.742	0.010
R1	NO. 7	5	IBM MODEL	SIMPLE EXPO
			12.010	1.493
R1	NO. 8	5	ARDEF MODEL	EXPONENTIAL
			12.831	0.464
R1	NO. 9	4	IBM MODEL	IBM MODEL
			14.103	0.241
R1	NO. 10	4	IBM MODEL	SIMPLE EXPC
			15.715	0.688
R1	NO. 11	4	IBM MODEL	SIMPLE EXPO
			12.228	0.518
R1	NO. 12	4	SIMPLE EXPO	LLOYD - LIPON
			22.645	0.701
R1	NO. 13	4	IBM MODEL	SIMPLE EXPO
			11.278	0.780
R1	NO. 14	4	IBM MODEL	ARDEF MODEL
			24.190	0.606
R1	NO. 15	4	IBM MODEL	IBM MODEL
			19.826	0.320
R1	NO. 16	4	IBM MODEL	SIMPLE EXPO
			16.753	0.822
R1	NO. 17	4	SIMPLE EXPO	SIMPLE EXPO
			8.519	0.535
R1	NO. 18	4	LLOYD - LIPON	LLOYD - LIPON
			15.277	0.534
R1	NO. 19	4	IBM MODEL	IBM MODEL
			11.535	0.111
R1	NO. 20	4	SIMPLE EXPO	SIMPLE EXPO
			8.608	0.607
R1	NO. 21	4	ARDEF MODEL	ARDEF MODEL
			15.648	0.187

TABLE 5.2 (Continued)

GROUND SYSTEM RADAR IN-HOUSE				
	SYSNO	RBAR	RE	
R3	NO. 1	1 DUANE MODEL	EXPONENTIAL	
		12,984	0.083	
R3	NO. 2	1 ARDEF MODEL	ARDEF MODEL	
		10,997	0.369	
R3	NO. 3	10 ARDEF MODEL	DUANE MODEL	
		22,687	0.942	
R3	NO. 4	10 ARDEF MODEL	ARDEF MODEL	
		8,283	0.057	
R3	NO. 5	10 ARDEF MODEL	ARDEF MODEL	
		7,842	0.223	

GROUND SYSTEM RADAR FIELD				
	SYSNO	RBAR	RE	
R1	NO. 1	10 DUANE MODEL	DUANE MODEL	
		22,140	0.038	
R1	NO. 2	12 ARDEF MODEL	SIMPLE EXPO	
		9,257	0.763	
R1	NO. 3	11 DUANE MODEL	DUANE MODEL	
		15,497	0.041	
R1	NO. 4	12 SIMPLE EXPO	SIMPLE EXPO	
		10,829	0.416	
R1	NO. 5	12 SIMPLE EXPO	SIMPLE EXPO	
		10,938	0.171	
R1	NO. 6	12 ARDEF MODEL	ARDEF MODEL	
		10,732	0.937	
R1	NO. 7	11 SIMPLE EXPO	DUANE MODEL	
		16,287	0.038	
R1	NO. 8	11 SIMPLE EXPO	SIMPLE EXPO	
		10,783	0.925	

TABLE 5.2 (Continued)

GROUND SYSTEM
MICROWAVE
IN-HOUSE

	SYSDO	RRAR	RE
R1 NO. 1	5	EXPONENTIAL 12,057	EXPONENTIAL 0,274

GROUND SYSTEM
MICROWAVE
FIELD

	SYSDO	RRAR	RE
R1 NO. 1	4	SIMPLE EXPO 6,913	SIMPLE EXPO 0,680
R1 NO. 2	4	SIMPLE EXPO 0,912	SIMPLE EXPO 0,105
R1 NO. 3	4	EXPONENTIAL 12,241	EXPONENTIAL 0,074
R1 NO. 4	4	SIMPLE EXPO 0,683	SIMPLE EXPO 0,173
R1 NO. 5	5	ANDER MODEL 10,014	EXPONENTIAL 0,917
R1 NO. 6	5	EXPONENTIAL 13,307	EXPONENTIAL 0,052
R1 NO. 7	5	LLOYD - LIPON 9,668	LLOYD - LIPON 0,095
R1 NO. 8	5	IBM MODEL 9,404	IBM MODEL 0,079
R1 NO. 9	5	IBM MODEL 10,070	SIMPLE EXPO 0,672
R1 NO. 10	5	SIMPLE EXPO 2,332	SIMPLE EXPO 0,012
R1 NO. 11	5	EXPONENTIAL 13,972	EXPONENTIAL 0,279
R1 NO. 12	4	SIMPLE EXPO 12,840	SIMPLE EXPO 0,051
R1 NO. 13	4	SIMPLE EXPO 11,379	SIMPLE EXPO 0,050
R1 NO. 14	4	SIMPLE EXPO 12,932	SIMPLE EXPO 0,141
R1 NO. 15	4	SIMPLE EXPO 12,553	SIMPLE EXPO 0,558
R1 NO. 16	4	SIMPLE EXPO 9,887	SIMPLE EXPO 0,666
R1 NO. 17	4	SIMPLE EXPO 0,329	SIMPLE EXPO 0,132
R1 NO. 18	4	SIMPLE EXPO 17,936	SIMPLE EXPO 0,422
R1 NO. 19	4	EXPONENTIAL 9,200	EXPONENTIAL 0,125
R1 NO. 20	4	IBM MODEL 7,171	SIMPLE EXPO 0,348

TABLE 5.2 (Continued)

GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYS NO	RBAR	RE
R2	NO. 1	0	IBM MODEL 5.379	IBM MODEL 0.011
R2	NO. 2	0	IBM MODEL 2.776	IBM MODEL 0.002
R2	NO. 3	0	EXPONENTIAL 8.634	EXPONENTIAL 0.011
R2	NO. 4	0	IBM MODEL 28.149	IBM MODEL 0.203
R2	NO. 5	0	IBM MODEL 12.017	SIMPLE EXPO 0.181

GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYS NO	RBAR	RE
R3	NO. 1	7	EXPONENTIAL 14.059	EXPONENTIAL 0.060
R3	NO. 2	7	IBM MODEL 23.497	SIMPLE EXPO 0.727
R3	NO. 3	7	IBM MODEL 21.686	LLOYD - LIPON 0.924
R3	NO. 4	2	SIMPLE EXPO 4.537	SIMPLE EXPO 0.180
R3	NO. 5	2	SIMPLE EXPO 18.708	SIMPLE EXPO 0.473
R3	NO. 6	1	SIMPLE EXPO 9.746	LLOYD - LIPON 0.025
R3	NO. 7	1	ARDEP MODEL 13.189	LLOYD - LIPON 0.963

TABLE 5.2 (Continued)

GROUND SYSTEM
DISPLAY
FIELD

		SYSDNO	RRAR	FE
R1	NO. 1	11	SIMPLE EXPO	DUANE MODEL
			18,040	0.043
R1	NO. 2	11	SIMPLE EXPO	DUANE MODEL
			19,152	0.070
R1	NO. 3	12	SIMPLE EXPO	SIMPLE EXPO
			13,925	0.620
R1	NO. 4	12	SIMPLE EXPO	SIMPLE EXPO
			22,678	0.326
R1	NO. 5	12	ARDEF MODEL	ARDEF MODEL
			14,862	0.290
R1	NO. 6	11	SIMPLE EXPO	SIMPLE EXPO
			10,608	0.613
R1	NO. 7	11	ARDEF MODEL	LLOYD - LIPON
			4,477	0.321
R1	NO. 8	12	SIMPLE EXPO	LLOYD - LIPON
			14,593	0.844
R1	NO. 9	11	SIMPLE EXPO	SIMPLE EXPO
			7,917	0.060

TABLE 5.2 (Continued)
GROUND SYSTEM
DISPLAY
FIELD

		SYS NO	REBAR	RE
R2	NO. 1	8	SIMPLE EXPO 7.198	SIMPLE EXPO 0.064
R2	NO. 2	8	SIMPLE EXPO 7.978	SIMPLE EXPO 0.031
R2	NO. 3	8	SIMPLE EXPO 4.527	SIMPLE EXPO 0.033
R2	NO. 4	8	SIMPLE EXPO 5.989	SIMPLE EXPO 0.315
R2	NO. 5	8	IBM MODEL 10.533	IBM MODEL 0.069
R2	NO. 6	8	SIMPLE EXPO 4.258	SIMPLE EXPO 0.006
R2	NO. 7	8	ARDEF MODEL 9.022	LLOYD - LIPON 0.339
R2	NO. 8	8	SIMPLE EXPO 10.178	SIMPLE EXPO 0.341
R2	NO. 9	8	SIMPLE EXPO 2.747	SIMPLE EXPO 9.146
R2	NO. 10	8	ARDEF MODEL 0.849	SIMPLE EXPO 0.802
R2	NO. 11	8	ARDEF MODEL 1.807	ARDEF MODEL 0.007
R2	NO. 12	8	ARDEF MODEL 2.902	ARDEF MODEL 0.006
R2	NO. 13	8	ARDEF MODEL 1.646	ARDEF MODEL 0.011
R2	NO. 14	8	SIMPLE EXPO 5.152	SIMPLE EXPO 0.007
R2	NO. 15	8	ARDEF MODEL 1.116	ARDEF MODEL 0.005
R2	NO. 16	8	SIMPLE EXPO 0.947	SIMPLE EXPO 3.197
R2	NO. 17	8	SIMPLE EXPO 2.235	SIMPLE EXPO 0.407
R2	NO. 18	8	IBM MODEL 7.504	IBM MODEL 0.140
R2	NO. 19	8	IBM MODEL 20.021	IBM MODEL 0.005
R2	NO. 20	8	IBM MODEL 17.639	SIMPLE EXPO 1.150
R2	NO. 21	8	ARDEF MODEL 18.692	DUANE MODEL 0.122
R2	NO. 22	8	IBM MODEL 9.311	EXPONENTIAL 0.011
R2	NO. 23	8	ARDEF MODEL 8.651	LLOYD - LIPON 0.318

TABLE 5.2 (Continued)

GROUND SYSTEM
DISPLAY
FILE

		SYSNO	RBAR	RE
R3	NO. 1	17	SIMPLE EXPO	DUANE MODEL
			44,176	0.253
R3	NO. 2	2	IBM MODEL	SIMPLE EXPO
			9,993	0.100
R3	NO. 3	2	IBM MODEL	IBM MODEL
			26,916	0.059

GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	RBAR	RE
R1	NO. 1	11	DUANE MODEL	DUANE MODEL
			15,173	0.097
R1	NO. 2	14	DUANE MODEL	DUANE MODEL
			40,733	0.027
R1	NO. 3	14	SIMPLE EXPO	SIMPLE EXPO
			11,092	0.497
R1	NO. 4	14	SIMPLE EXPO	SIMPLE EXPO
			8,750	0.406
R1	NO. 5	14	SIMPLE EXPO	SIMPLE EXPO
			2,346	0.047

GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	RBAR	RE
R2	NO. 1	13	SIMPLE EXPO	SIMPLE EXPO
			12,582	1.000

TABLE 5.2 (Continued)

GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSDO	RBAR	RE
R3	NO. 1	9	DUANE MODEL 40.004	DUANE MODEL 0.004
R3	NO. 2	9	SIMPLE EXPO 6.670	SIMPLE EXPO 0.037
R3	NO. 3	9	SIMPLE EXPO 19.294	DUANE MODEL 0.132
R3	NO. 4	9	SIMPLE EXPO 12.360	SIMPLE EXPO 1.024
R3	NO. 5	2	SIMPLE EXPO 2.763	SIMPLE EXPO 0.016
R3	NO. 6	2	IDM MODEL 10.620	SIMPLE EXPO 0.221
R3	NO. 7	1	ARDEF MODEL 14.685	ARDEF MODEL 0.303
R3	NO. 8	1	ARDEF MODEL 16.985	LLO/D - LIPOM 1.261

TABLE 5.2 (Continued)

GROUND SYSTEM
COMPUTER
FIELD

		SYBNO	RBAR	RE
R1	NO. 1	11	DUANE MODEL	DUANE MODEL
			12.153	0.094
R1	NO. 2	11	DUANE MODEL	DUANE MODEL
			25.533	0.022
R1	NO. 3	12	ARDEF MODEL	DUANE MODEL
			39.132	0.095
R1	NO. 4	15	SIMPLE EXPO	LLOYD - LIPON
			10.055	0.095
R1	NO. 5	12	DUANE MODEL	DUANE MODEL
			10.316	0.211
R1	NO. 6	16	LLOYD - LIPON	LLOYD - LIPON
			6.054	0.090
R1	NO. 7	15	SIMPLE EXPO	SIMPLE EXPO
			5.461	0.051
R1	NO. 8	15	SIMPLE EXPO	SIMPLE EXPO
			11.253	0.793
R1	NO. 9	15	LLOYD - LIPON	LLOYD - LIPON
			12.173	0.580
R1	NO. 10	15	IBM MODEL	IBM MODEL
			10.048	0.194
R1	NO. 11	15	LLOYD - LIPON	SIMPLE EXPO
			8.812	0.050
R1	NO. 12	15	SIMPLE EXPO	SIMPLE EXPO
			5.037	0.165
R1	NO. 13	15	LLOYD - LIPON	LLOYD - LIPON
			10.372	0.783
R1	NO. 14	15	LLOYD - LIPON	LLOYD - LIPON
			4.090	1.000
R1	NO. 15	15	SIMPLE EXPO	SIMPLE EXPO
			6.050	0.150
R1	NO. 16	11	SIMPLE EXPO	SIMPLE EXPO
			3.844	0.054
R1	NO. 17	12	SIMPLE EXPO	SIMPLE EXPO
			20.205	0.095
R1	NO. 18	11	SIMPLE EXPO	SIMPLE EXPO
			11.062	0.689
R1	NO. 19	11	SIMPLE EXPO	DUANE MODEL
			11.001	0.103

GROUND SYSTEM
COMPUTER
FIELD

		SYBNO	RBAR	RE
R3	NO. 1	17	DUANE MODEL	DUANE MODEL
			59.819	0.326
R3	NO. 2	2	IBM MODEL	EXPONENTIAL
			12.648	0.029
R3	NO. 3	2	LLOYD - LIPON	LLOYD - LIPON
			6.188	0.420

TABLE 5.2 (Continued)

GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	RBAR	RE
R3	NO. 1	2	EXPONENTIAL	EXPONENTIAL
			7.027	0.897
R3	NO. 2	2	EXPONENTIAL	EXPONENTIAL
			19.467	0.211

GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	RBAR	RE
R1	NO. 1	4	SIMPLE EXPO	LLOYD - LIPON
			27.667	0.796
R1	NO. 2	4	SIMPLE EXPO	LLOYD - LIPON
			26.675	0.862
R1	NO. 3	4	SIMPLE EXPO	SIMPLE EXPO
			6.310	1.001
R1	NO. 4	4	SIMPLE EXPO	LLOYD - LIPON
			14.797	0.226
R1	NO. 5	4	SIMPLE EXPO	SIMPLE EXPO
			11.194	0.465
R1	NO. 6	4	ARDEF MODEL	ARDEF MODEL
			12.776	0.451
R1	NO. 7	4	IBM MODEL	IBM MODEL
			11.956	0.135
R1	NO. 8	4	IBM MODEL	IBM MODEL
			22.658	0.560
R1	NO. 9	4	IBM MODEL	SIMPLE EXPO
			12.173	0.201
R1	NO. 10	4	SIMPLE EXPO	SIMPLE EXPO
			15.747	0.249
R1	NO. 11	4	IBM MODEL	LLOYD - LIPON
			15.173	0.946
R1	NO. 12	4	ARDEF MODEL	LLOYD - LIPON
			12.676	0.927

GROUND SYSTEM
SYSTEM - RADAR
IN-HOUSE

		SYSNO	RBAR	RE
R3	NO. 1	1	IBM MODEL	EXPONENTIAL
			10.616	0.161
R3	NO. 2	1	EXPONENTIAL	EXPONENTIAL
			9.023	0.164

TABLE 5.2 (Continued)

GROUND SYSTEM
SYSTEM - RADAR
FIELD

		SYSNO	RBAR	RE
R1	NO. 1	10	DUANE MODEL 16,706	DUANE MODEL 0,053
R1	NO. 2	11	DUANE MODEL 11,832	DUANE MODEL 0,180
R1	NO. 3	12	ARDEF MODEL 9,081	LLLOYD - LIPON 0,544
R1	NO. 4	11	SIMPLE EXPO 7,130	SIMPLE EXPO 0,062
R1	NO. 5	11	SIMPLE EXPO 16,360	DUANE MODEL 0,035
R1	NO. 6	12	SIMPLE EXPO 8,802	SIMPLE EXPO 0,210
R1	NO. 7	12	DUANE MODEL 12,472	DUANE MODEL 0,033
R1	NO. 8	11	SIMPLE EXPO 7,951	SIMPLE EXPO 0,100

GROUND SYSTEM
SYSTEM - MICROWAVE
IN-HOUSE

		SYSNO	RBAR	RE
R1	NO. 1	5	EXPONENTIAL 12,627	EXPONENTIAL 0,201

TABLE 5.2 (Continued)

GROUND SYSTEM
SYSTEM - MICROWAVE
FIELD

		SYSNO	RBAR	RE
R1	NO. 1	5	EXPONENTIAL	EXPONENTIAL
			19,207	0.885
R1	NO. 2	5	IBM MODEL	SIMPLE EXPO
			6,521	0.111
R1	NO. 3	5	SIMPLE EXPO	SIMPLE EXPO
			24,201	0.789
R1	NO. 4	5	IBM MODEL	IBM MODEL
			9,451	0.092
R1	NO. 5	5	EXPONENTIAL	EXPONENTIAL
			19,490	0.906
R1	NO. 6	4	IBM MODEL	SIMPLE EXPO
			5,734	0.893
R1	NO. 7	4	SIMPLE EXPO	SIMPLE EXPO
			8,404	0.201
R1	NO. 8	4	EXPONENTIAL	EXPONENTIAL
			11,982	0.109
R1	NO. 9	4	SIMPLE EXPO	SIMPLE EXPO
			9,101	0.214
R1	NO. 10	5	SIMPLE EXPO	SIMPLE EXPO
			5,396	0.210
R1	NO. 11	5	EXPONENTIAL	EXPONENTIAL
			14,800	0.416
R1	NO. 12	4	AROE MODEL	SIMPLE EXPO
			14,955	0.809
R1	NO. 13	4	SIMPLE EXPO	SIMPLE EXPO
			6,245	0.391
R1	NO. 14	4	SIMPLE EXPO	SIMPLE EXPO
			13,481	0.143
R1	NO. 15	4	SIMPLE EXPO	SIMPLE EXPO
			11,031	0.626
R1	NO. 16	4	IBM MODEL	SIMPLE EXPO
			8,501	0.892
R1	NO. 17	4	SIMPLE EXPO	SIMPLE EXPO
			19,000	0.442
R1	NO. 18	4	EXPONENTIAL	EXPONENTIAL
			8,096	0.153
R1	NO. 19	4	IBM MODEL	SIMPLE EXPO
			9,086	0.513
R1	NO. 20	4	SIMPLE EXPO	SIMPLE EXPO
			10,260	0.210

TABLE 5.2 (Continued)

AIRBORNE
ANTENNA
IN-HOUSE

		SYSDU	WMAH	RE
R2	NO. 1	25	ARDEF MODEL 15.395	ARDEF MODEL 0.237
R2	NO. 2	27	EXPONENTIAL 5.938	EXPONENTIAL 0.035
R2	NO. 3	27	SIMPLE EXPO 4.390	SIMPLE EXPO 0.048
R2	NO. 4	27	IBM MODEL 4.228	IBM MODEL 0.011
R2	NO. 5	27	EXPONENTIAL 19.038	EXPONENTIAL 0.318

AIRBORNE
RADAR
IN-HOUSE

		SYSDU	RBAR	RE
R2	NO. 1	27	SIMPLE EXPO 6.571	SIMPLE EXPO 0.119
R2	NO. 2	27	IBM MODEL 4.096	IBM MODEL 0.004
R2	NO. 3	25	IBM MODEL 7.587	IBM MODEL 0.019
R2	NO. 4	25	SIMPLE EXPO 12.396	SIMPLE EXPO 0.492
R2	NO. 5	27	SIMPLE EXPO 4.885	SIMPLE EXPO 0.044
R2	NO. 6	27	IBM MODEL 3.478	IBM MODEL 0.002

TABLE 5.2 (Continued)

AIRBURN
DISPLAY
IN-HOUSE

		SYSNO	RBAR	RE
R2	NO. 1	27	SIMPLE EXPO 7.773	SIMPLE EXPO 0.437
R2	NO. 2	27	SIMPLE EXPO 3.321	SIMPLE EXPO 0.022
R2	NO. 3	25	AROE MODEL 10.854	LLOYD-LIPON 0.813
R2	NO. 4	27	EXPONENTIAL 5.029	EXPONENTIAL 0.020
R2	NO. 5	27	EXPONENTIAL 8.408	EXPONENTIAL 0.308
R2	NO. 6	25	EXPONENTIAL 10.350	EXPONENTIAL 0.050

AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	RBAR	RE
R1	NO. 1	23	IBM MODEL 11.259	AROE MODEL 0.605
R1	NO. 2	23	AROE MODEL 0.024	AROE MODEL 0.0
R1	NO. 3	23	SIMPLE EXPO 5.944	SIMPLE EXPO 0.275
R1	NO. 4	21	SIMPLE EXPO 6.760	IBM MODEL 0.027
R1	NO. 5	21	EXPONENTIAL 5.293	EXPONENTIAL 0.002

AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	RBAR	RE
R2	NO. 1	26	SIMPLE EXPO 12.364	SIMPLE EXPO 0.149
R2	NO. 2	27	EXPONENTIAL 6.828	EXPONENTIAL 0.066
R2	NO. 3	27	SIMPLE EXPO 3.702	SIMPLE EXPO 0.163
R2	NO. 4	27	SIMPLE EXPO 6.623	SIMPLE EXPO 0.112
R2	NO. 5	27	EXPONENTIAL 2.730	EXPONENTIAL 0.011

AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSD	RBAR	RE
R1	NO. 1	21	ARDEF MODEL 4.304	ARDEF MODEL 0.031
R1	NO. 2	21	EXPONENTIAL 8.376	EXPONENTIAL 0.008

AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSD	RBAR	RE
R3	NO. 1	20	EXPONENTIAL 15.625	EXPONENTIAL 0.050
R3	NO. 2	20	EXPONENTIAL 18.069	EXPONENTIAL 0.036

TABLE 5.2 (Continued)

AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	RBAR	RE
R1 NO. 1	21	EXPONENTIAL 12.028	EXPONENTIAL 0.081

AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	RBAR	RE
R3 NO. 1	20	EXPONENTIAL 7.886	EXPONENTIAL 7.0
R3 NO. 2	20	SIMPLE EXPO 14.361	SIMPLE EXPO 0.715

AIRBORNE
LASER XMTX / RCVR
IN-HOUSE

	SYSNO	RBAR	RE
R1 NO. 1	21	EXPONENTIAL 11.410	EXPONENTIAL 0.040
R1 NO. 2	21	EXPONENTIAL 7.164	EXPONENTIAL 0.042

AIRBORNE
LASER XMTX / RCVR
IN-HOUSE

	SYSNO	RBAR	RE
R3 NO. 1	20	SIMPLE EXPO 13.370	SIMPLE EXPO 0.087
R3 NO. 2	20	EXPONENTIAL 16.090	EXPONENTIAL 0.015

TABLE 5.2 (Continued)

AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSDU	RRAR	RE
R1	NO. 1	23	ARDEF MODEL	ARDEF MODEL
			17,326	0,205
R1	NO. 2	23	ARDEF MODEL	ARDEF MODEL
			12,566	0,783
R1	NO. 3	23	ARDEF MODEL	ARDEF MODEL
			15,226	0,509

AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSDU	RRAR	RE
R2	NO. 1	27	IBM MODEL	IBM MODEL
			4,700	0,003

AIRBORNE
SYSTEM-RA DAR
IN-HOUSE

		SYSDU	RRAR	RE
R2	NO. 1	27	IBM MODEL	IBM MODEL
			3,555	0,005
R2	NO. 2	27	IBM MODEL	IBM MODEL
			1,947	0,003
R2	NO. 3	27	SIMPLE EXPO	SIMPLE EXPO
			5,028	0,025
R2	NO. 4	25	IBM MODEL	IBM MODEL
			2,374	0,004
R2	NO. 5	27	IBM MODEL	IBM MODEL
			3,820	0,013
R2	NO. 6	25	SIMPLE EXPO	LLDYD-LIPON
			13,277	0,588

AIRBORNE
SYSTEM-LASER
IN-HOUSE

	SYS NO	RBAR	RE
R1 NO. 1	21	EXPONENTIAL 7.130	EXPONENTIAL 0.014
R1 NO. 2	21	EXPONENTIAL 8.289	EXPONENTIAL 0.030

AIRBORNE
SYSTEM-LASER
IN-HOUSE

	SYS NO	RBAR	RE
R3 NO. 1	20	EXPONENTIAL 12.151	EXPONENTIAL 0.016
R3 NO. 2	20	SIMPLE EXPO 7.767	SIMPLE EXPO 0.065

AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

	SYS NO	RBAR	RE
R1 NO. 1	23	IDM MODEL 20.105	ARDEF MODEL 0.558
R1 NO. 2	23	ARDEF MODEL 15.830	ARDEF MODEL 0.878
R1 NO. 3	23	LLOYD-LIPON 14.027	LLOYD-LIPON 1.279
R1 NO. 4	23	SIMPLE EXPO 8.682	SIMPLE EXPO 0.245

TABLE 5.2 (Continued)

 AIR FORCE
 SYSTEM - INFRARED
 FIELD

SYSTEM			PARAMETER		PERCENT
R3	NO. 1	24	ARDEF MODEL	ARDEF MODEL	
			7.325		0.351
R3	NO. 2	24	ARDEF MODEL	ARDEF MODEL	
			0.948		0.004
R3	NO. 3	24	ARDEF MODEL	LLOYD - LIPON	
			9.916		0.153
R3	NO. 4	24	SIMPLE EXPO	SIMPLE EXPO	
			8.461		0.908
R3	NO. 5	24	ARDEF MODEL	ARDEF MODEL	
			4.347		0.272
R3	NO. 6	24	ARDEF MODEL	LLOYD - LIPON	
			11.930		0.868
R3	NO. 7	24	EXPONENTIAL	EXPONENTIAL	
			6.498		0.022
R3	NO. 8	24	ARDEF MODEL	ARDEF MODEL	
			1.980		0.009
R3	NO. 9	24	SIMPLE EXPO	SIMPLE EXPO	
			10.872		0.016
R3	NO. 10	24	EXPONENTIAL	EXPONENTIAL	
			12.197		0.226
R3	NO. 11	24	EXPONENTIAL	EXPONENTIAL	
			2.093		0.004
R3	NO. 12	24	SIMPLE EXPO	SIMPLE EXPO	
			9.955		0.404
R3	NO. 13	24	ARDEF MODEL	ARDEF MODEL	
			11.518		0.568
R3	NO. 14	24	EXPONENTIAL	EXPONENTIAL	
			6.700		0.235
R3	NO. 15	24	SIMPLE EXPO	SIMPLE EXPO	
			16.060		0.072
R3	NO. 16	24	ARDEF MODEL	ARDEF MODEL	
			8.811		0.123
R3	NO. 17	24	ARDEF MODEL	ARDEF MODEL	
			12.350		0.334
R3	NO. 18	24	IBM MODEL	EXPONENTIAL	
			6.883		0.015
R3	NO. 19	24	EXPONENTIAL	EXPONENTIAL	
			2.697		0.032
R3	NO. 20	24	SIMPLE EXPO	SIMPLE EXPO	
			10.657		1.307
R3	NO. 21	24	SIMPLE EXPO	SIMPLE EXPO	
			11.661		0.074
R3	NO. 22	24	ARDEF MODEL	ARDEF MODEL	
			2.900		0.037
R3	NO. 23	24	SIMPLE EXPO	SIMPLE EXPO	
			9.761		0.845
R3	NO. 24	24	EXPONENTIAL	EXPONENTIAL	
			7.381		0.008
R3	NO. 25	24	ARDEF MODEL	ARDEF MODEL	
			0.016		0.0
R3	NO. 26	24	SIMPLE EXPO	SIMPLE EXPO	
			11.535		0.007

TABLE 5.2 (Continued)

AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

		SYSNO	WBAR	RE
R2	NO. 1	22	EXPONENTIAL 7.958	EXPONENTIAL 0.164
R2	NO. 2	22	EXPONENTIAL 9.610	EXPONENTIAL 0.230

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TABLE 4.3
DUANE MODEL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	12	7	18304	0,5629E+00	0,5770E+03	0,3133E+00	0,8248E-01	41,103	1,711
R1	NO. 2	12	3	24804	0,6051E+00	0,4037E+04	0,2223E+00	0,1077E+00	71,271	0,695
R1	NO. 3	5	3	2767	0,8703E+00	0,7830E+03	0,3198E+00	0,8991E-01	71,526	13,342
R1	NO. 4	5	9	3032	0,4925E+00	0,3500E+02	0,2549E+00	0,1675E+00	29,430	0,105
R1	NO. 5	5	6	1373	0,7538E+00	0,1275E+03	0,3962E+00	0,8212E-01	64,673	0,330
R1	NO. 6	5	6	7124	0,4868E+00	0,1795E+03	0,2558E+00	0,1125E+00	42,240	0,067
R1	NO. 7	5	4	2663	0,1193E+01	0,8328E+03	0,5205E+00	0,1176E+00	52,984	23,105
R1	NO. 8	5	7	407	0,1043E+01	0,6298E+02	0,5805E+00	0,1365E+00	54,384	2,044
R1	NO. 9	4	18	42080	0,1144E+01	0,3367E+04	0,7615E+00	0,2103E+00	51,979	3,032
R1	NO. 10	4	14	46800	0,7566E+00	0,1430E+04	0,5118E+00	0,1819E+00	33,669	1,004
R1	NO. 11	4	23	47900	0,8416E+00	0,1154E+04	0,5944E+00	0,7809E-01	20,192	0,837
R1	NO. 12	4	41	46860	0,8564E+00	0,6132E+03	0,6713E+00	0,4102E+00	26,704	1,174
R1	NO. 13	4	73	46840	0,8254E+00	0,2989E+03	0,6938E+00	0,2774E+00	14,240	1,171
R1	NO. 14	4	13	51440	0,2269E+01	0,1661E+05	0,1509E+01	0,1661E+00	36,215	0,675
R1	NO. 15	4	28	31798	0,9746E+00	0,1041E+04	0,7168E+00	0,8140E+00	46,807	0,922
R1	NO. 16	4	33	18240	0,7178E+00	0,1390E+03	0,9437E+00	0,4969E+00	31,362	1,254
R1	NO. 17	4	35	33680	0,1237E+01	0,1900E+04	0,9775E+00	0,6881E-01	12,580	1,176
R1	NO. 18	4	14	24920	0,8436E+00	0,1091E+04	0,5707E+00	0,2314E+00	35,985	2,206
R1	NO. 19	4	61	32800	0,8251E+00	0,2250E+03	0,6929E+00	0,6249E+00	19,128	0,274
R1	NO. 20	4	80	42000	0,6778E+00	0,6541E+02	0,9748E+00	0,1240E+01	23,429	2,710
R1	NO. 21	4	22	35400	0,1203E+01	0,2710E+04	0,3881E+00	0,2363E+00	24,960	0,673

TABLE 4.3 (Cont'd)
 QUANTUM MODEL
 GROUND SYSTEM
 MICROWAVE
 FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	4	114	42078	0.9399E+00	0.2727E+03	0.5213E+00	0.2226E+00	9.001	0.866
R1	NO. 2	4	259	46860	0.6516E+00	0.9275E+01	0.5979E+00	0.1030E+01	17.304	0.398
R1	NO. 3	4	240	47899	0.7259E+00	0.2520E+02	0.6636E+00	0.2200E+01	20.617	0.189
R1	NO. 4	4	183	46793	0.5676E+00	0.4834E+01	0.5116E+00	0.2448E+01	23.682	0.824
R1	NO. 5	5	10	407	0.1111E+01	0.5120E+02	0.6912E+00	0.1634E+00	36.699	2.230
R1	NO. 6	5	40	2663	0.9726E+00	0.6000E+02	0.7596E+00	0.2814E+00	17.453	1.094
R1	NO. 7	5	26	1373	0.2491E+01	0.3713E+03	0.1806E+01	0.6773E+01	15.535	0.568
R1	NO. 8	5	42	7124	0.5598E+00	0.8971E+01	0.4523E+00	0.3020E+00	24.314	0.227
R1	NO. 9	5	45	3032	0.8131E+00	0.2809E+02	0.6458E+00	0.2734E+00	16.302	1.055
R1	NO.10	5	4	161	0.1046E+01	0.4277E+02	0.2882E+00	0.7207E+01	55.890	7.075
R1	NO.11	5	26	2767	0.3101E+00	0.4957E+02	0.6143E+00	0.1232E+00	17.762	0.384
R1	NO.12	4	147	35400	0.8754E+00	0.1184E+03	0.7786E+00	0.1339E+01	19.175	1.806
R1	NO.13	4	302	42618	0.6614E+00	0.7582E+01	0.6110E+00	0.2845E+01	22.177	1.805
R1	NO.14	4	283	32800	0.6850E+00	0.8640E+01	0.6310E+00	0.1068E+01	18.679	0.247
R1	NO.15	4	173	24920	0.7291E+00	0.2122E+02	0.6550E+00	0.6997E+00	19.035	0.961
R1	NO.16	4	251	33680	0.7558E+00	0.2251E+02	0.6924E+00	0.1067E+01	15.322	1.658
R1	NO.17	4	149	18240	0.6308E+00	0.6545E+01	0.5615E+00	0.1225E+01	21.691	0.649
R1	NO.18	4	142	41798	0.9491E+00	0.2257E+03	0.8422E+00	0.1909E+01	27.643	0.764
R1	NO.19	4	160	51440	0.6532E+00	0.2173E+02	0.5841E+00	0.7892E+00	12.946	0.248
R1	NO.20	4	448	46834	0.7086E+00	0.8491E+01	0.6645E+00	0.1562E+01	14.623	0.959

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	4	3038	0.4262E+00	0.1174E+03	0.1860E+00	0.1046E+00	52.812	0.428
R3	NO. 2	1	5	5085	0.4413E+00	0.1326E+03	0.2149E+00	0.9792E-01	60.558	0.269
R3	NO. 3	18	4	3822	0.4705E+00	0.2007E+03	0.2053E+00	0.5747E-01	59.858	60.493

DUANE MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	16	2513	0.4963E+00	0.9420E+01	0.3454E+00	0.4526E-01	22.140	0.038
R1	NO. 2	12	99	24804	0.9872E+00	0.2361E+03	0.8624E+00	0.3512E+00	12.277	1.120
R1	NO. 3	11	70	6751	0.6561E+00	0.1041E+02	0.5578E+00	0.1082E+00	15.497	0.041
R1	NO. 4	12	34	9165	0.7073E+00	0.6264E+02	0.5385E+00	0.1769E+00	20.028	0.495
R1	NO. 5	12	4	714	0.8808E+00	0.1480E+03	0.3845E+00	0.1339E+00	54.306	3.647
R1	NO. 6	12	77	18304	0.8766E+00	0.1290E+03	0.7513E+00	0.3066E+00	13.735	1.092
R1	NO. 7	11	71	4382	0.5323E+00	0.1458E+01	0.4531E+00	0.2051E+00	16.400	0.058
R1	NO. 8	11	120	7574	0.7468E+00	0.1131E+02	0.6639E+00	0.3726E+00	14.116	1.158

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSD	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	PE
R3	NO. 1	1	28	6369	0,6267E+00	0,3124E+02	0,4805E+00	0,1043E+00	12,994	0,111
R3	NO. 2	1	3	2076	0,4693E+00	0,1998E+03	0,1724E+00	0,8670E+01	74,955	0,471
R3	NO. 3	18	18	3822	0,8340E+00	0,1194E+03	0,5941E+00	0,2311E+00	28,742	0,542
R3	NO. 4	18	12	5370	0,2316E+01	0,1837E+04	0,1355E+01	0,4074E+01	21,423	0,641
R3	NO. 5	18	11	4650	0,1208E+01	0,6392E+03	0,7714E+00	0,1180E+00	49,557	6,840

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE	
R1	NO. 1	5	33	1122	0,9619E+00	0,2960E+02	0,7545E+00	0,1955E+00	26,176	0,819

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE	
R1	NO. 1	11	34	11490	0,9247E+00	0,1386E+02	0,3995E+00	0,1295E+00	19,879	0,043
R1	NO. 2	11	17	4382	0,5824E+00	0,3383E+02	0,4104E+00	0,4809E-01	19,879	0,070
R1	NO. 3	12	30	18304	0,6676E+00	0,1122E+03	0,4973E+00	0,5620E+00	25,851	1,326
R1	NO. 4	12	7	9165	0,3219E+00	0,2173E+02	0,1792E+00	0,2544E+00	44,857	0,027
70 R1	NO. 5	12	4	714	0,5710E+00	0,6300E+02	0,2492E+00	0,556 E-01	55,190	0,619
R1	NO. 6	11	49	9663	0,8203E+00	0,8408E+02	0,6742E+00	0,1181E+00	11,954	0,806
R1	NO. 7	11	117	10309	0,1079E+01	0,1290E+03	0,9500E+00	0,2722E-01	6,915	0,623
R1	NO. 8	12	33	24804	0,9671E+00	0,6673E+03	0,7586E+00	0,1625E+00	18,535	1,083
R1	NO. 9	11	177	7849	0,4995E+00	0,2480E+00	0,4920E+00	0,1230E+01	21,994	0,125

TABLE 4.7 (Cont'd)
DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	8	15	9425	0,7435E+00	0,2468E+03	0,4694E+00	0,9983E-01	20,417	0,449
R2	NO. 2	8	7	8246	0,6017E+00	0,3248E+03	0,2711E+00	0,1872E+00	39,864	0,401
R2	NO. 3	8	16	7570	0,7359E+00	0,1749E+03	0,4738E+00	0,1038E+00	20,416	0,506
R2	NO. 4	8	11	9425	0,1171E+01	0,1215E+04	0,6623E+00	0,5268E-01	31,936	7,122
R2	NO. 5	8	15	45376	0,4610E+00	0,1276E+03	0,3166E+00	0,1992E+00	35,726	0,713
R2	NO. 6	8	4	22037	0,6856E+00	0,2917E+04	0,2992E+00	0,1301E+00	54,427	0,866
R2	NO. 7	8	9	45059	0,4641E+00	0,3959E+03	0,2802E+00	0,8643E-01	38,555	4,573
R2	NO. 8	8	17	8979	0,1738E+01	0,1760E+04	0,1139E+01	0,9523E-01	26,547	8,887
R2	NO. 9	8	18	11914	0,9731E+00	0,6112E+03	0,6475E+00	0,3432E-01	14,317	3,498
R2	NO. 10	8	11	17219	0,1149E+01	0,2135E+04	0,7333E+00	0,2245E-01	22,075	739,381
71 R2	NO. 11	8	3	2237	0,3780E+01	0,1673E+04	0,6677E+00	0,1029E+00	78,569	65,416
R2	NO. 12	8	4	2247	0,1283E+01	0,7627E+03	0,3536E+00	0,5004E-01	69,804	21,155
R2	NO. 13	8	3	2332	0,1225E+01	0,9508E+03	0,2163E+00	0,8852E-01	90,429	15,158
R2	NO. 14	8	3	1980	0,1229E+01	0,8097E+03	0,2170E+00	0,1206E+00	74,622	21,488
R2	NO. 15	8	3	631	0,3454E+01	0,4591E+03	0,6100E+00	0,1021E+00	78,919	79,382
R2	NO. 16	3	4	3492	0,1823E+01	0,1632E+04	0,5024E+00	0,5302E-01	62,298	1319,069
R2	NO. 17	8	11	4096	0,1396E+01	0,7350E+03	0,7897E+00	0,1255E-01	25,382	123,826
R2	NO. 18	8	14	44314	0,6721E+00	0,8733E+03	0,4546E+00	0,3157E-01	26,732	0,409
R2	NO. 19	8	9	45376	0,5305E+00	0,7210E+03	0,3203E+00	0,8880E-01	29,078	0,473
R2	NO. 20	8	6	33328	0,5625E+00	0,1378E+04	0,2956E+00	0,7705E-01	83,225	7,485

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO.21	8	3	45221	0.5541E+00	0.6226E+04	0.2036E+00	0.8589E-01	93.164	0.122
R2	NO.22	8	16	45477	0.4721E+00	0.1280E+03	0.3286E+00	0.4611E-01	21.140	0.019
R2	NO.23	8	10	45261	0.8230E+00	0.2758E+04	0.5121E+00	0.5942E-01	34.775	0.934

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
72 R3	NO. 1	17	5	3764	0.6935E+00	0.3716E+03	0.2422E+00	0.8792E-01	88.368	0.253
R3	NO. 2	2	12	6336	0.6695E+00	0.1549E+03	0.4369E+00	0.1101E+00	28.894	0.916
R3	NO. 3	2	8	4576	0.5506E+00	0.1048E+03	0.3206E+00	0.2891E-01	29.341	0.274

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	8	105	2700	0,4105E+00	0,3215E+01	0,3564E+00	0,2352E+01	30,586	0,304
R2	NO. 2	8	100	3200	0,4718E+00	0,1847E+00	0,4080E+00	0,7188E+00	20,674	0,053
R2	NO. 3	6	50	3700	0,5180E+00	0,1943E+01	0,4172E+00	0,2406E+00	20,964	0,046
R2	NO. 4	8	33	3700	0,3637E+00	0,2470E+00	0,2755E+00	0,1490E+01	52,469	0,256
R2	NO. 5	8	16	2500	0,7639E+00	0,6633E+02	0,4918E+00	0,9152E+01	23,723	0,519

DUANE MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	7	17	2193	0,5639E+00	0,1442E+02	0,3690E+00	0,1354E+00	19,695	0,124
R3	NO. 2	7	32	2246	0,8632E+00	0,4057E+02	0,6505E+00	0,3509E+00	32,296	0,761
R3	NO. 3	7	12	3322	0,1414E+01	0,5727E+03	0,8272E+00	0,1788E+00	40,806	0,980
R3	NO. 4	2	384	3415	0,6674E+00	0,4581E+00	0,3241E+00	0,2324E+01	20,075	3,462
R3	NO. 5	2	211	4536	0,1012E+01	0,2292E+02	0,9239E+00	0,1501E+01	24,945	0,981
R3	NO. 6	1	6	4659	0,6750E+00	0,3277E+03	0,3549E+00	0,5439E+01	65,229	1,969
R3	NO. 7	1	21	6144	0,8662E+00	0,1828E+03	0,6345E+00	0,2027E+00	23,039	2,534

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0.6644E+00	0.5692E+02	0.5058E+00	0.8138E-01	12,153	0.094
R1	NO. 2	11	33	5703	0.4417E+00	0.2080E+01	0.3346E+00	0.2041E+00	25,333	0.022
R1	NO. 3	12	16	9165	0.6484E+00	0.1274E+03	0.4313E+00	0.2018E+00	39,451	0.095
R1	NO. 4	15	19	11800	0.7750E+00	0.2642E+03	0.5577E+00	0.2926E+00	26,997	5.261
R1	NO. 5	12	35	10304	0.5186E+00	0.1930E+02	0.4049E+00	0.2775E+00	16,316	0.211
R1	NO. 6	16	5	2513	0.8995E+00	0.4199E+03	0.4379E+00	0.7599E-01	54,794	1.733
R1	NO. 7	15	9	11209	0.7816E+00	0.6741E+03	0.4045E+00	0.5662E-01	26,303	0.812
R1	NO. 8	15	7	18682	0.1955E+01	0.6841E+04	0.1088E+01	0.7841E-01	50,406	37.829
R1	NO. 9	15	9	16192	0.1024E+01	0.1894E+01	0.6182E+00	0.1753E+00	30,252	2.387
R1	NO. 10	15	19	23495	0.9651E+00	0.1112E+04	0.6513E+00	0.7377E-01	27,105	0.898
R1	NO. 11	15	10	15741	0.6179E+00	0.3791E+03	0.3845E+00	0.2014E+00	36,737	9.706
R1	NO. 12	15	17	23572	0.9821E+00	0.1340E+04	0.6473E+00	0.2927E-01	19,131	1.562
R1	NO. 13	15	20	15756	0.1102E+01	0.1040E+04	0.8004E+00	0.8784E-01	13,942	1.705
R1	NO. 14	15	16	13960	0.1009E+01	0.8936E+03	0.7021E+00	0.6074E-01	15,681	10.900
R1	NO. 15	15	34	23660	0.8580E+00	0.3885E+03	0.6532E+00	0.6098E-01	12,937	0.336
R1	NO. 16	11	35	10323	0.7799E+00	0.1081E+03	0.5966E+00	0.1481E+00	13,365	0.593
R1	NO. 17	12	41	24804	0.1025E+01	0.6623E+03	0.8259E+00	0.2553E+00	27,621	1.063
R1	NO. 18	11	36	9833	0.1541E+01	0.9605E+03	0.1184E+01	0.9047E-01	31,717	16.718
R1	NO. 19	11	35	12141	0.6803E+00	0.6523E+02	0.5377E+00	0.7547E-01	13,704	0.103

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	17	10	3965	0,5449E+00	0,5797E+02	0,2961E+00	0,1308E+00	59,719	0,126
R3	NO. 2	2	16	4576	0,5322E+00	0,2501E+02	0,3705E+00	0,1056E+00	29,977	0,058
R3	NO. 3	2	9	6336	0,1303E+01	0,1173E+04	0,7867E+00	0,3149E-01	26,069	4,965

DUANE MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	46	4467	0,5618E+00	0,4891E+01	0,4474E+00	0,1640E+00	15,173	0,097
R1	NO. 2	14	12	2043	0,5067E+00	0,1516E+02	0,3307E+00	0,9215E-01	46,733	0,027
R1	NO. 3	14	43	11189	0,1555E+01	0,9964E+03	0,1260E+01	0,3840E+00	29,156	16,105
R1	NO. 4	14	45	10666	0,1509E+01	0,8555E+03	0,1229E+01	0,1878E+00	23,585	13,922
R1	NO. 5	14	9	2792	0,0606E+00	0,2173E+03	0,5196E+00	0,3159E-01	25,392	4,575

DUANE MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	13	18	1540	0,8056E+00	0,4260E+02	0,5739E+00	0,7788E-01	26,842	2,125

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSD	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	9	10	1726	0,2376E+00	0,1068E+00	0,1291E+00	0,1864E+00	40,804	0,024
R3	NO. 2	9	25	2241	0,4192E+00	0,1046E+01	0,3160E+00	0,6355E+00	36,051	0,223
R3	NO. 3	9	24	2370	0,5458E+00	0,6786E+01	0,3888E+00	0,1957E+00	28,540	0,132
R3	NO. 4	9	3	3105	0,2874E+00	0,6836E+02	0,3865E+01	0,1028E+00	75,553	49,588
R3	NO. 5	2	74	3415	0,6205E+00	0,3319E+01	0,5300E+00	0,4423E+00	20,317	0,873
R3	NO. 6	2	67	4536	0,5502E+00	0,2177E+01	0,4660E+00	0,7753E+00	29,042	1,236
R3	NO. 7	1	5	8513	0,1578E+01	0,3071E+08	0,7683E+00	0,9271E+01	53,946	1,401
R3	NO. 8	1	4	6339	0,1500E+01	0,2182E+04	0,5675E+00	0,2291E+00	63,262	9,121

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	14	35400	7.8716E+00	0.1714E+04	0.5396E+00	0.2946E+00	39,570	1,261
R1	NO. 2	4	25	46840	0.8017E+00	0.8452E+03	0.5765E+00	0.4140E+00	34,242	1,226
R1	NO. 3	4	11	51440	0.1196E+01	0.6932E+04	0.7638E+00	0.8049E+01	22,481	14,198
R1	NO. 4	4	11	41798	0.5052E+01	0.2600E+05	0.2858E+01	0.1694E+00	63,943	14,093
R1	NO. 5	4	16	33680	0.9887E+00	0.2040E+04	0.6882E+00	0.1371E+00	23,303	1,496
R1	NO. 6	4	16	24920	0.1160E+01	0.2285E+04	0.8077E+00	0.1717E+00	46,508	3,400
R1	NO. 7	4	16	32800	0.8430E+00	0.1223E+04	0.9427E+00	0.8143E+01	27,333	0,422
R1	NO. 8	4	95	42000	0.8492E+00	0.1970E+03	0.7313E+00	0.1346E+01	26,752	0,600
R1	NO. 9	4	4	46800	0.5704E+00	0.4118E+04	0.2490E+00	0.1259E+00	53,952	3,500
R1	NO. 10	4	36	47900	0.2610E+01	0.1214E+05	0.2006E+01	0.2008E+00	27,322	5,875
R1	NO. 11	4	23	46840	0.6772E+00	0.1313E+04	0.6525E+00	0.2484E+00	22,869	1,455
R1	NO. 12	4	3	42080	0.7749E+00	0.1019E+05	0.2847E+00	0.1085E+00	66,803	12,780

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	2	20	3415	0,8683E+00	0,1084E+03	0,6306E+00	0,1130E+00	15,286	3,800
R3	NO. 2	2	10	4536	0,8273E+00	0,2805E+03	0,5108E+00	0,1535E+00	49,836	0,543

DUANE MODEL
GROUND SYSTEM
SYSTEM - RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	24	2513	0,5965E+00	0,1220E+02	0,4468E+00	0,5580E+01	16,706	0,053
R1	NO. 2	11	178	6751	0,6949E+00	0,3898E+01	0,6253E+00	0,3221E+00	11,832	0,180
R1	NO. 3	12	170	24804	0,9898E+00	0,1384E+03	0,6938E+00	0,1242E+00	10,020	1,044
R1	NO. 4	11	244	7849	0,5577E+00	0,4112E+00	0,5125E+00	0,1160E+01	19,546	0,188
R1	NO. 5	11	114	4382	0,4316E+00	0,7511E+01	0,3806E+00	0,1024E+01	24,520	0,035
R1	NO. 6	12	148	18304	0,7051E+00	0,1529E+02	0,6274E+00	0,7537E+00	12,626	0,432
R1	NO. 7	12	57	9165	0,5844E+00	0,9064E+01	0,4782E+00	0,6658E+01	12,472	0,033
R1	NO. 8	11	200	7574	0,6610E+00	0,2500E+01	0,5986E+00	0,6307E+00	13,817	0,398

DJANE MODEL
GROUND SYSTEM
SYSTEM - RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	14	2076	0,7340E+00	0,5699E+02	0,4966E+00	0,1338E+00	26,301	0,303
R3	NO. 2	1	53	5085	0,7450E+00	0,2464E+02	0,6172E+00	0,1306E+00	14,431	0,223

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
SYSTEM - MICROWAVE
FIELD

		SYBNC	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	17	407	0.1077E+01	0.2930E+02	0.7587E+00	0.2399E+00	30.721	1.547
R1	NO. 2	5	54	3031	0.7311E+00	0.1294E+02	0.5945E+00	0.2287E+00	13.655	0.460
R1	NO. 3	5	32	1373	0.1608E+01	0.1783E+03	0.1279E+01	0.1243E+00	162.292	54.715
R1	NO. 4	5	48	7124	0.5474E+00	0.6044E+01	0.4499E+00	0.3582E+00	24.447	0.202
R1	NO. 5	5	44	2662	0.1003E+01	0.6109E+02	0.7938E+00	0.3735E+00	19.322	1.042
R1	NO. 6	4	135	42076	0.9572E+00	0.2502E+03	0.8465E+00	0.2416E+00	8.440	0.740
R1	NO. 7	4	323	46856	0.6839E+00	0.1004E+02	0.6335E+00	0.1321E+01	16.772	0.633
R1	NO. 8	4	299	47896	0.8059E+03	0.4060E+02	0.7442E+00	0.2672E+01	20.646	0.286
R1	NO. 9	4	201	46798	0.5781E+00	0.4952E+01	0.5237E+00	0.2599E+01	23.697	0.886
R1	NO. 10	5	5	161	0.1074E+01	0.3595E+02	0.3749E+00	0.8991E+01	43.600	11.435
R1	NO. 11	5	29	2767	0.8116E+00	0.4368E+02	0.6254E+00	0.1730E+00	16.466	0.547
R1	NO. 12	4	183	35400	0.9037E+00	0.1110E+03	0.8145E+00	0.1643E+01	19.990	1.454
R1	NO. 13	4	477	42618	0.6901E+00	0.8601E+01	0.6485E+00	0.2752E+01	16.832	1.727
R1	NO. 14	4	360	32900	0.7064E+00	0.7890E+01	0.6572E+00	0.1212E+01	17.411	0.212
R1	NO. 15	4	203	24020	0.7576E+00	0.2242E+02	0.6867E+00	0.6503E+00	17.024	1.047
R1	NO. 16	4	302	33680	0.7996E+00	0.2665E+02	0.7336E+00	0.1064E+01	13.693	1.858
R1	NO. 17	4	181	41794	0.9725E+00	0.1993E+03	0.8759E+00	0.3029E+01	30.463	0.871
R1	NO. 18	4	184	51440	0.7078E+00	0.3247E+02	0.6381E+00	0.6233E+00	10.589	0.426
R1	NO. 19	4	546	46840	0.7266E+00	0.8010E+01	0.6858E+00	0.1991E+01	14.568	1.155
R1	NO. 20	4	184	18240	0.6412E+00	0.5351E+01	0.5780E+00	0.1668E+01	23.048	0.625

TABLE 4.3 Cont'd
 GUANAJUATO
 GROUND SYSTEM
 SYSTEM - MICROWAVE
 IN-HOUSE

	SYSNO	NO.	FAIL	HOURS	P1	P2	P3	P4	QBAR	RE
R1	NO. 1	5	34	1122	0.9110E+00	0.2338E+02	0.7174E+00	0.1986E+00	21.310	0.602

TABLE 4.3 Cont'd
GROUND SYSTEM
ANTENNA
FIELD

		SYNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RP
R1	NO. 1	12	7	18304	0.1392E-02	0.3061E+01	0.7466E-03		50,730	3,589
R1	NO. 2	12	3	24804	0.1829E-02	0.1189E+02	0.7718E-03		90,845	5,285
R1	NO. 4	5	9	3032	0.1455E-10	0.8604E+01	0.2340E-02		11,976	0,019
R1	NO. 6	5	6	7124	0.2067E-03	0.4328E+01	0.2245E-02		11,742	0,010
R1	NO. 7	5	4	2663	0.1854E-02	0.1123E+03	0.1767E-09		12,019	1,553
R1	NO. 8	5	7	407	0.1906E-01	0.1526E-04	0.1263E-02		38,040	1,238
R1	NO. 9	3	18	42080	0.3483E-03	0.6646E+00	0.4160E-02		14,183	0,241
R1	NO. 10	4	14	46600	0.1455E-10	0.1416E+02	0.5782E-04		15,715	0,855
R1	NO. 11	4	23	47900	0.3756E-03	0.5367E+01	0.1528E-03		12,228	0,748
R1	NO. 12	4	41	46860	0.9837E-03	0.2823E+03	0.2328E-09		32,315	1,040
R1	NO. 13	4	73	46840	0.8428E-03	0.3342E+02	0.6683E-04		11,278	1,061
R1	NO. 14	4	13	51440	0.2168E-03	0.1526E-04	0.1000E-02		24,190	1,300
R1	NO. 15	4	28	31798	0.5437E-03	0.5033E+01	0.5063E-03		19,326	0,320
R1	NO. 16	4	33	18240	0.1455E-10	0.3548E+02	0.1368E-03		16,753	1,087
R1	NO. 17	4	35	33680	0.1022E-02	0.1526E-04	0.1213E-02		14,076	1,384
R1	NO. 19	4	61	32800	0.1463E-02	0.8415E+01	0.7342E-03		11,535	0,111
R1	NO. 20	4	80	42000	0.1455E-10	0.1090E+03	0.4048E-04		11,760	0,914
R1	NO. 21	4	22	35400	0.6631E-03	0.3638E-11	0.5321E-03		19,765	1,230

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	4	3038	0,2581E-02	0,7762E+02	0,3725E-08		284,738	4,101
R3	NO. 2	1	5	5085	0,1434E-02	0,1044E+01	0,3663E+00		2,861	0,015
R3	NO. 3	18	4	3822	0,1260E-02	0,9537E-06	0,2182E-02		281,533	1034,375

IBM MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	16	2513	0,3328E-03	0,9537E-06	0,7574E-01		8626,160	4154,031
R1	NO. 2	12	99	24804	0,1409E-01	0,7841E+02	0,6810E-03		80,980	30,417
R1	NO. 3	11	70	6751	0,1079E-01	0,1819E-11	0,9628E-03		170,848	2,219
R1	NO. 5	12	4	714	0,5621E-10	0,3793E+02	0,1680E-03		61,010	4,700
R1	NO. 6	12	77	18304	0,6614E-02	0,5196E+01	0,3002E-03		33,699	6,164
R1	NO. 7	11	71	4382	0,1409E-02	0,1658E+02	0,4655E-03		523,787	42,122
R1	NO. 8	11	129	7574	0,6416E-02	0,1526E-04	0,1676E-02		297,066	40,612

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	MBAR	ME
R3	NO. 1	1	25	6309	0.2476E-03	0.2944E+02	0.3644E-03	28.434	0.191
R3	NO. 3	18	18	3922	0.1373E-02	0.3177E+01	0.2090E-01	72.593°	6.982
R3	NO. 4	18	12	5370	0.4739E-02	0.1511E+01	0.1278E-01	68.666	3.832
R3	NO. 5	18	11	4650	0.4894E-02	0.4141E+00	0.2728E-01	50.179	7.024

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RL
R1	NO. 2	4	259	46860	0,6725E-02	0,8415E+02	0,2833E-00		54,237	2,185
R1	NO. 3	4	240	47899	0,4784E-02	0,5278E+02	0,3810E-08		83,458	1,706
R1	NO. 4	4	183	46798	0,5865E-02	0,6926E+02	0,2852E-00		56,191	2,275
R1	NO. 5	5	10	407	0,2810E-01	0,5163E+01	0,1210E-08		20,863	1,177
R1	NO. 6	5	40	2663	0,3553E-14	0,9195E+02	0,2194E-03		14,737	1,343
R1	NO. 7	5	26	1373	0,1475E-01	0,1526E-04	0,1180E-02		25,443	1,317
R1	NO. 8	5	42	7124	0,2153E-02	0,2580E+02	0,1042E-02		9,404	0,079
R1	NO. 9	5	45	3032	0,7105E-14	0,6332E+02	0,4163E-03		10,070	0,784
R1	NO. 10	5	4	161	0,2807E-01	0,1526E-04	0,2772E-02		36,763	2,810
R1	NO. 11	5	26	2767	0,5960E-07	0,3413E+02	0,4778E-03		16,895	0,358
R1	NO. 13	4	302	42618	0,1025E-01	0,7081E+02	0,2345E-00		26,790	1,235
R1	NO. 14	4	283	32800	0,9466E-02	0,7937E+02	0,2947E-00		62,130	1,999
R1	NO. 15	4	173	24920	0,8459E-02	0,5344E+02	0,2328E-00		30,256	1,511
R1	NO. 16	4	251	33680	0,9322E-02	0,4621E+02	0,3346E-00		18,597	1,351
R1	NO. 17	4	149	18240	0,1122E-01	0,1525E-04	0,2328E-00		42,266	2,154
R1	NO. 18	4	142	41708	0,3121E-02	0,1163E+02	0,5668E-03		18,794	0,657
R1	NO. 19	4	160	51440	0,1455E-10	0,2001E+03	0,3366E-00		12,784	0,197
R1	NO. 20	4	448	46834	0,2390E-02	0,3568E+03	0,5419E-00		7,171	0,444

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	33	1122	0,2624E+01	0,4576E+04	0,2328E+09	31,605	1,222

IBM MODEL
GROUND SYSTEM
DISPLAY
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0,4507E+02	0,2635E+02	0,1341E+02	50,342	1,021
R1	NO. 2	11	17	4382	0,1328E+01	0,1039E+03	0,5601E+03	81,524	3,545
R1	NO. 3	12	30	18304	0,3698E+03	0,3155E+01	0,5885E+03	204,046	70,441
R1	NO. 5	12	4	714	0,2328E+09	0,1961E+03	0,8139E+04	98,043	1,533
R1	NO. 6	11	49	9663	0,3086E+02	0,1526E+04	0,1213E+02	122,359	28,747
R1	NO. 7	11	117	10809	0,1459E+10	0,4239E+02	0,1598E+03	137,852	70,317
R1	NO. 9	11	177	7849	0,2939E+02	0,1478E+02	0,7009E+02	307,692	87,635

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	8	15	9425	0.5594E-03	0.1146E+02	0.4974E-03		22.840	0.506
R2	NO. 2	8	7	8246	0.8515E-03	0.1842E+01	0.1181E-02		27.775	0.302
R2	NO. 3	8	16	7570	0.1665E-02	0.1926E+04	0.1191E-02		117.097	12.913
R2	NO. 4	8	11	9425	0.1050E-02	0.3628E+01	0.2792E-03		36.291	7.367
R2	NO. 5	8	15	45376	0.1425E-03	0.1086E+02	0.2050E-03		10.333	0.069
R2	NO. 6	8	4	22037	0.1455E-10	0.4105E+01	0.2015E-03		7.529	0.015
R2	NO. 8	8	17	8979	0.1333E-02	0.1003E+01	0.7895E-02		26.267	2.015
R2	NO. 9	8	18	11916	0.6038E-03	0.1082E+01	0.1688E-02		101.815	182.531
R2	NO.18	8	14	44314	0.3908E-03	0.1406E+01	0.4696E-02		7.504	0.149
R2	NO.19	8	9	45376	0.9080E-04	0.7905E+01	0.1096E-03		20.021	0.095
R2	NO.20	8	6	33328	0.5602E-03	0.1926E+04	0.4641E-15		17.639	1.388
R2	NO.22	8	16	45477	0.2519E-03	0.5549E+01	0.1997E-02		9.311	0.012

IBM MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	17	5	3784	0.2567E-02	0.1526E-04	0.4163E-16		192.478	1.563
R3	NO. 2	2	12	6336	0.4121E-03	0.9423E+01	0.6386E-03		9.993	0.121
R3	NO. 3	2	8	4576	0.1360E-02	0.3408E+01	0.2407E-02		26.916	0.059

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2	NO. 1	8	105	2700	0,2506E-02	0,9817E+02	0,2693E-02		5,379	0,011
R2	NO. 2	8	100	3200	0,9932E-02	0,6413E+02	0,3050E-02		2,776	0,002
R2	NO. 3	8	30	3700	0,6600E-03	0,3559E+02	0,4109E-02		30,021	0,188
R2	NO. 4	8	33	3700	0,2407E-03	0,3078E+02	0,4276E-02		28,149	0,203
R2	NO. 5	8	16	2500	0,3202E-02	0,7455E+01	0,2243E-02		12,017	0,266

IBM MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3	NO. 1	7	17	3193	0,1060E-01	0,1526E+04	0,1491E-02		127,392	2,136
R3	NO. 2	7	32	2248	0,2416E-02	0,2487E+02	0,1073E-02		23,497	0,788
R3	NO. 3	7	12	3322	0,2013E-02	0,1991E+02	0,8510E-04		21,686	1,229
R3	NO. 4	2	584	3415	0,2328E-09	0,5937E+93	0,4378E-03		5,874	0,325
R3	NO. 5	2	211	4536	0,5458E-01	0,1101E+03	0,1388E-16		19,119	1,301
R3	NO. 6	1	6	4659	0,3412E-02	0,3052E-04	0,1507E-02		29,762	1,598
R3	NO. 7	1	21	6144	0,2328E-09	0,3841E+02	0,1527E-03		14,551	1,931

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
COMPUTER
FIELD

	SVSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0.9960E+02	0.5608E+02	0.5223E-03	77,341	4,568
R1	NO, 2	11	33	5703	0.1057E+01	0.2683E+02	0.4375E-02	47,550	0,909
R1	NO, 3	12	16	9165	0.3203E-02	0.7949E+01	0.1271E-02	65,029	1,725
R1	NO, 4	15	19	11800	0.3230E-02	0.1526E+04	0.1293E-02	23,688	5,009
R1	NO, 7	15	9	11209	0.9095E-12	0.2571E+02	0.3331E-04	73,126	5,475
R1	NO, 8	15	7	16642	0.6904E-03	0.1624E+01	0.3540E-02	63,350	17,026
R1	NO, 9	15	9	16192	0.1455E-10	0.1400E+02	0.1506E-03	45,458	8,226
R1	NO, 10	15	19	23495	0.5838E-03	0.2449E+01	0.5038E-03	10,845	0,194
R1	NO, 13	15	26	15756	0.1138E+02	0.9832E+01	0.5075E-03	32,217	10,173
R1	NO, 14	15	16	13960	0.1455E-10	0.4333E+02	0.7167E-04	46,885	95,050
R1	NO, 15	15	34	23680	0.4543E-02	0.2954E+01	0.2214E+00	64,340	8,607
^{DO} R1	NO, 16	11	35	10323	0.1019E-01	0.6818E+02	0.3560E-02	84,844	19,442
R1	NO, 17	12	41	24804	0.4379E-02	0.1526E+04	0.9534E-03	58,505	4,934
R1	NO, 18	11	36	9833	0.1527E-01	0.1307E+03	0.9084E-03	92,270	24,720
R1	NO, 19	11	35	12141	0.8332E-02	0.1671E+02	0.1888E-02	64,672	3,286

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R3	NO. 1	17	10	3965	0,7980E-02	0,6114E+01	0,1263E-01		80,460	1,904
R3	NO. 2	2	16	4576	0,2619E-02	0,4835E+01	0,1095E-01		12,648	0,032
R3	NO. 3	2	9	6336	0,1496E-02	0,1658E+01	0,2168E-05		9,323	1,406

IBM MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R1	NO. 1	11	46	4467	0,2328E-09	0,2451E+02	0,3623E-02		34,172	1,808
R1	NO. 2	14	12	2043	0,3601E-02	0,1926E-04	0,1288E-02		2482,382	10,943
R1	NO. 3	14	43	11189	0,3369E-02	0,1398E+01	0,4630E-02		24,227	3,364
R1	NO. 5	14	9	2792	0,1804E-01	0,1526E-04	0,2084E-03		73,466	39,874

IBM MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R2	NO. 1	13	18	1540	0,1334E-02	0,3125E+01	0,1254E-01		147,208	60,421

TABLE 4.3 (Cont'd)
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3	NO. 1	9	10	1726	0,1191E-01	0,1526E+04	0,1682E-02	4558,773	1,557
R3	NO. 2	9	25	2261	0,5960E-07	0,5434E+02	0,2192E-02	41,102	0,733
R3	NO. 4	9	3	3105	0,6726E-03	0,6120E+01	0,5950E-03	257,963	457,616
R3	NO. 5	2	74	3415	0,5960E-07	0,8373E+02	0,7092E-03	3,347	0,035
R3	NO. 6	2	67	4536	0,3211E-03	0,6817E+02	0,8175E-03	10,628	0,313
R3	NO. 7	1	5	8513	0,6758E-03	0,2868E+01	0,2439E-05	22,429	1,661
R3	NO. 8	1	4	6339	0,8358E-03	0,1526E+04	0,1110E-15	18,734	1,883

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	14	35400	0,5261E-03	0,4123E+02	0,1164E-09		28,689	1,098
R1	NO, 3	4	11	51440	0,2255E-03	0,9537E-06	0,1777E-02		7,374	1,242
R1	NO, 4	4	11	41798	0,2060E-03	0,1526E-04	0,1000E-02		32,452	1,588
R1	NO, 5	4	16	33680	0,6215E-03	0,1526E-04	0,1147E-02		16,347	1,416
R1	NO, 6	4	16	24920	0,6627E-03	0,9095E-11	0,6477E-02		27,415	1,084
R1	NO, 7	4	16	32800	0,3634E-03	0,3078E+01	0,5433E-03		11,956	0,135
R1	NO, 8	4	95	42000	0,2253E-02	0,3697E+01	0,2847E-02		22,654	0,560
R1	NO, 9	4	4	46800	0,9095E-12	0,4342E+01	0,1090E-03		12,173	0,249
R1	NO,10	4	36	47900	0,5658E-03	0,1526E-04	0,6713E-01		29,625	1,332
R1	NO,11	4	23	46860	0,2728E-11	0,4246E+02	0,1867E-04		15,173	1,277

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IBM MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	2	20	3415	0,9095E-12	0,1166E+03	0,5920E-04		7,148	1,026
R3	NO, 2	2	10	4936	0,2947E-02	0,3403E+01	0,1455E-10		83,080	1,225

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
SYSTEM - RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 2	11	178	6751	0,4421E-02	0,8831E+01	0,6656E-03		477,150	194,376
R1	NO. 4	11	244	7849	0,8941E-02	0,1087E+03	0,1076E-02		22,312	0,644
R1	NO. 5	11	114	4382	0,4407E-02	0,1526E-04	0,1325E-02		2517,703	264,120
R1	NO. 6	12	148	18304	0,5821E-10	0,3554E+02	0,1191E-03		330,250	243,740
R1	NO. 7	12	57	9165	0,1025E-03	0,6082E+01	0,3486E-02		368,554	142,546
R1	NO. 8	11	200	7574	0,1602E-02	0,1504E+02	0,1496E-02		444,606	386,423

IBM MODEL
GROUND SYSTEM
SYSTEM - RADAR
IN - HOUSE

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		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	14	2076	0,7158E-02	0,1544E+01	0,3446E-01		10,816	0,180
R3	NO. 2	1	53	5085	0,1455E-10	0,8943E+02	0,1918E-03		31,106	0,523

IBM MODEL
GROUND SYSTEM
SYSTEM - MICROWAVE
IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	34	1122	0,2717E-01	0,2471E+01	0,3264E-01		13,764	0,343

TABLE 4.3 (Cont'd)
 IBM MODEL
 GROUND SYSTEM
 SYSTEM - MICROWAVE
 FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RB1R	RE
R1	NO. 1	5	17	407	0,4535E-01	0,6960E+02	0,3730E-09	19,739	1,102
R1	NO. 2	5	54	3031	0,5960E-07	0,6275E+02	0,6050E-03	6,521	0,123
R1	NO. 3	5	32	1373	0,1910E-01	0,1526E-04	0,1292E-02	25,447	1,302
R1	NO. 4	5	48	7124	0,2567E-02	0,2830E+02	0,1213E-02	9,451	0,092
R1	NO. 5	5	44	2662	0,1802E-01	0,1045E+03	0,2324E-09	18,562	1,070
R1	NO. 6	4	135	42076	0,8606E-03	0,1467E+03	0,2239E-04	5,734	0,576
R1	NO. 7	4	323	40856	0,8290E-02	0,7666E+02	0,5821E-10	43,226	2,032
R1	NO. 8	4	299	47896	0,5834E-02	0,5203E+02	0,2328E-09	56,898	1,540
R1	NO. 9	4	201	46798	0,6313E-02	0,7182E+02	0,3019E-09	54,535	2,221
R1	NO. 10	5	5	161	0,5960E-07	0,6977E+01	0,8197E-02	7,093	0,328
R1	NO. 11	5	29	2767	0,5960E-07	0,3839E+02	0,4874E-03	15,167	0,425
R1	NO. 13	4	477	42618	0,1519E-01	0,7572E+02	0,2745E-09	21,072	1,709
R1	NO. 14	4	360	32800	0,1170E-01	0,8450E+02	0,2831E-08	58,946	1,920
R1	NO. 15	4	203	24920	0,9731E-02	0,5421E+02	0,2328E-09	25,194	1,421
R1	NO. 16	4	302	33680	0,5821E-10	0,5701E+03	0,2460E-04	8,501	0,989
R1	NO. 17	4	181	41794	0,3920E-02	0,1374E+02	0,6258E-03	19,819	0,649
R1	NO. 18	4	184	51440	0,1455E-10	0,2576E+03	0,2565E-04	12,486	0,265
R1	NO. 19	4	546	46840	0,5684E-13	0,5540E+03	0,4862E-04	9,086	0,742
R1	NO. 20	4	184	58240	0,1370E-01	0,7643E+02	0,2021E-09	39,731	2,064

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO. FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	12	7	18304	0.6079E+03	0.1000E+00	0.1000E+00		32,068	2,630
R1	NO. 2	12	3	24804	0.5003E+03	0.8096E+00	0.8728E-04		90,550	5,259
R1	NO. 4	5	9	3032	0.8630E+04	0.9955E+00	0.1209E-04		12,042	0,015
R1	NO. 5	5	6	1373	0.1839E+03	0.1019E+01	0.6736E-02		3,443	0,029
R1	NO. 6	5	6	7124	0.4687E+03	0.1526E-04	0.1886E-01		146,704	1,250
R1	NO. 7	5	4	2663	0.5255E+03	0.1000E+00	0.1000E+00		12,990	1,500
R1	NO. 8	5	7	407	0.5613E+02	0.9769E+00	0.2004E-01		13,254	0,464
R1	NO. 9	4	18	42080	0.2452E+04	0.1000E+00	0.1000E+00		31,840	1,063
R1	NO. 10	4	14	46800	0.2204E+04	0.1000E+00	0.1000E+00		37,160	1,083
R1	NO. 11	4	23	47900	0.1596E+04	0.1000E+00	0.1000E+00		23,041	1,048
R1	NO. 12	4	41	46860	0.9653E+03	0.1000E+00	0.1000E+00		29,340	1,026
R1	NO. 13	4	73	46840	0.5102E+03	0.1000E+00	0.1000E+00		19,711	1,014
R1	NO. 14	4	13	51440	0.6961E+04	0.1000E+00	0.1000E+00		52,552	1,091
R1	NO. 15	4	28	31798	0.1115E+04	0.1000E+00	0.1000E+00		50,349	1,038
R1	NO. 16	4	33	18240	0.3629E+03	0.1000E+00	0.1000E+00		31,292	1,032
R1	NO. 17	4	35	33680	0.1095E+04	0.1000E+00	0.1000E+00		18,232	1,030
R1	NO. 18	4	14	24920	0.1298E+04	0.1000E+00	0.1000E+00		22,094	1,083
R1	NO. 19	4	61	32800	0.4436E+03	0.1000E+00	0.1000E+00		40,173	1,017
R1	NO. 20	4	80	42000	0.3169E+03	0.1000E+00	0.1000E+00		9,567	1,013
R1	NO. 21	4	22	35400	0.1805E+04	0.1000E+00	0.1000E+00		27,942	1,050

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	4	3038	0.4276E+04	0.9898E+00	0.5589E-04		6,321	0,002
R3	NO. 2	1	5	5085	0.4637E+03	0.2187E+01	0.1000E+00		15,223	0,224
R3	NO. 3	18	4	3822	0.6557E+03	0.9997E+02	0.9956E-01		220,269	632,152

EXPONENTIAL MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	16	2513	0.3363E+04	0.1000E+00	0.1000E+00		9643,195	5216,492
R1	NO. 2	12	99	24804	0.1003E+03	0.8487E+00	0.4791E-04		78,943	29,271
R1	NO. 3	11	70	6751	0.9688E+02	0.1000E+00	0.1000E+00		179,150	2,555
R1	NO. 5	12	4	714	0.6906E+03	0.8683E+00	0.5455E-04		15,653	1,073
R1	NO. 6	12	77	18304	0.1436E+03	0.1000E+00	0.1000E+00		29,750	4,789
R1	NO. 7	11	71	4382	0.5272E+03	0.8248E+00	0.7723E-04		468,146	38,085
R1	NO. 8	11	129	7574	0.3472E+03	0.9991E+00	0.4115E-03		387,092	108,360

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	28	6369	0.2459E+03	0.7825E+00	0.2556E+03		16,406	0,083
R3	NO, 3	18	18	3822	0.5501E+03	0.9835E+00	0.4738E+03		73,883	7,349
R3	NO, 4	18	12	5370	0.1714E+03	0.7979E+02	0.1000E+00		72,392	4,013
R3	NO, 5	18	11	4650	0.2072E+03	0.1000E+00	0.1000E+00		50,330	7,159

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TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	114	42078	0,3382E+03	0,1000E+00	0,1000E+00		10,316	1,009
R1	NO. 5	4	240	47899	0,2532E+03	0,8076E+00	0,4020E-04		12,241	0,074
R1	NO. 5	5	10	407	0,3904E+02	0,8119E+00	0,3283E-01		18,355	0,917
R1	NO. 6	5	40	2663	0,6241E+02	0,7855E+01	0,1000E+00		13,387	0,852
R1	NO. 7	5	26	1373	0,9812E+02	0,1000E+00	0,1000E+00		43,329	1,042
R1	NO. 8	5	42	7124	0,8048E+02	0,1000E+00	0,4516E+02		47,562	1,025
R1	NO. 9	5	45	3032	0,5073E+02	0,5960E-07	0,8344E-01		16,599	1,026
R1	NO. 11	5	26	2767	0,1193E+03	0,6299E+00	0,6317E-03		13,972	0,279
R1	NO. 12	4	147	35400	0,2068E+03	0,1000E+00	0,1000E+00		13,551	1,007
R1	NO. 13	4	302	42618	0,8556E+02	0,1000E+00	0,1000E+00		17,893	1,004
R1	NO. 14	4	283	32800	0,7698E+02	0,5960E-07	0,8066E-01		36,681	1,004
R1	NO. 16	4	251	33680	0,9679E+02	0,1000E+00	0,1709E+03		14,303	1,005
R1	NO. 17	4	149	18240	0,6844E+02	0,5960E-07	0,7854E-01		20,730	1,007
R1	NO. 18	4	142	41798	0,2577E+03	0,1000E+00	0,1000E+00		32,700	1,132
R1	NO. 19	4	160	51440	0,4087E+03	0,7240E+00	0,1949E-04		9,200	0,125

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,3697E+02	0,6860E+00	0,4392E-02	12,857	0,27

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,4667E+02	0,5960E+07	0,5501E-01	55,911	2,21
R1	NO, 3	12	30	18304	0,9756E+03	0,1000E+00	0,1000E+00	200,746	47,96
R1	NO, 5	12	4	714	0,1906E+03	0,7038E+00	0,3208E-04	92,558	1,63
R1	NO, 6	11	49	9663	0,3697E+03	0,1000E+00	0,1000E+00	150,913	43,90
R1	NO, 7	11	117	10809	0,2089E+03	0,1000E+00	0,1000E+00	118,612	46,49
R1	NO, 9	11	177	7849	0,2169E+03	0,9693E+00	0,2915E-01	322,100	67,02

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RDAR	RE
R2	NO. 1	8	15	9425	0.2975E+03	0.1000E+00	0.1000E+00		18,820	1,737
R2	NO. 2	8	7	8246	0.8252E+03	0.1000E+00	0.1000E+00		102,733	2,444
R2	NO. 3	8	16	7570	0.7246E+03	0.1000E+00	0.1000E+00		161,963	24,608
R2	NO. 4	8	11	9425	0.5663E+03	0.1000E+00	0.1000E+00		30,027	6,314
R2	NO. 5	8	15	45376	0.8845E+03	0.1000E+00	0.1000E+00		40,832	1,077
R2	NO. 6	8	4	22037	0.2640E+04	0.1000E+00	0.1000E+00		50,210	1,500
R2	NO. 7	8	9	45059	0.1309E+04	0.1000E+00	0.1000E+00		23,809	1,143
R2	NO. 8	8	17	8979	0.7000E+03	0.1000E+00	0.1000E+00		22,680	1,088
R2	NO. 9	8	18	11916	0.1469E+04	0.1000E+00	0.1000E+00		160,985	380,002
R2	NO. 18	8	14	44314	0.1865E+04	0.1000E+00	0.1000E+00		72,059	1,083
R2	NO. 19	8	9	45376	0.1884E+04	0.1000E+00	0.1000E+00		53,101	1,143
R2	NO. 20	8	6	33328	0.1927E+04	0.1000E+00	0.1000E+00		19,597	1,250
R2	NO. 22	8	16	45477	0.3162E+04	0.9598E+00	0.4206E-04		9,851	0,011
R2	NO. 23	8	10	45261	0.3188E+04	0.1000E+00	0.1000E+00		38,354	1,125

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,4035E+03	0,9545E+00	0,4032E+01	176,863	1,445
R3	NO, 2	2	12	6336	0,2871E+03	0,1000E+00	0,1000E+00	32,016	1,100
R3	NO, 3	2	8	4576	0,2691E+03	0,4371E+01	0,4282E+01	35,845	0,709

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 2	8	100	3200	0,1799E+03	0,9782E+00	0,5767E+04	5,838	0,006
R2	NO, 3	8	50	3700	0,1208E+03	0,9261E+00	0,2535E+03	8,634	0,011

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,1709E+03	0,8885E+00	0,5375E+03	14,059	0,060
R3	NO, 2	7	32	2248	0,6119E+02	0,2274E+01	0,1000E+00	31,416	0,862
R3	NO, 3	7	12	3322	0,3448E+03	0,1000E+00	0,1000E+00	35,274	1,100
R3	NO, 5	2	211	4536	0,2198E+02	0,9110E+02	0,3462E+02	26,027	1,009
R3	NO, 6	1	6	4659	0,3892E+03	0,1000E+00	0,1000E+00	41,025	1,250
R3	NO, 7	1	21	6144	0,2254E+03	0,1000E+00	0,1000E+00	13,717	1,053

T A B L E 43 (Cont'd)
E X P O N E N T I A L M O D E L
G R O U N D S Y S T E M
C O M P U T E R
F I E L D

		SY8NO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0,4241E+02	0,1000E+00	0,1000E+00		75,200	4,963
R1	NO. 2	11	33	5703	0,7649E+02	0,8945E+00	0,3240E-03		44,985	0,010
R1	NO. 3	12	16	9165	0,1738E+03	0,1000E+00	0,1000E+00		111,510	2,258
R1	NO. 4	15	19	11800	0,3540E+03	0,1000E+00	0,1000E+00		15,795	2,348
R1	NO. 5	12	35	18304	0,2007E+03	0,1000E+00	0,1000E+00		62,612	1,069
R1	NO. 7	15	9	11209	0,1502E+04	0,1000E+00	0,1000E+00		108,011	11,936
R1	NO. 8	15	7	18642	0,1103E+04	0,1000E+00	0,1000E+00		66,075	17,844
R1	NO. 9	15	9	16192	0,6965E+03	0,1000E+00	0,1000E+00		51,578	8,768
R1	NO. 10	15	19	23495	0,1211E+04	0,1000E+00	0,1000E+00		31,566	1,192
R1	NO. 11	15	10	19741	0,7724E+03	0,1000E+00	0,1000E+00		16,419	1,864
R1	NO. 12	15	17	23572	0,7624E+03	0,1000E+00	0,1000E+00		35,182	6,060
R1	NO. 13	15	20	15756	0,5613E+03	0,1000E+00	0,1000E+00		29,991	5,522
R1	NO. 14	15	16	13960	0,4130E+03	0,1000E+00	0,1000E+00		45,709	88,753
R1	NO. 15	15	34	23680	0,1726E+03	0,9782E+00	0,1490E-02		68,854	9,986
R1	NO. 16	11	35	16323	0,7640E+02	0,9599E+00	0,1536E-03		84,468	19,323
R1	NO. 17	12	41	24804	0,2414E+03	0,1000E+00	0,1000E+00		56,143	4,671
R1	NO. 18	11	36	9833	0,3809E+03	0,9791E+00	0,9400E-05		92,135	24,707
R1	NO. 19	11	35	12141	0,9425E+02	0,8329E+00	0,5163E-03		66,111	3,463

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
FIELD

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	PBAR	RE
R3 NO, 1	17	10	3965	0,1062E+03	0,6790E+00	0,1061E+02		81,593	1,956
R3 NO, 2	2	16	4576	0,2669E+03	0,9573E+00	0,7302E+03		13,047	0,029
R3 NO, 3	2	9	6336	0,7158E+03	0,1000E+00	0,1000E+00		11,684	1,143

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	PBAR	RE
R1 NO, 2	14	12	2043	0,3161E+03	0,1000E+00	0,1000E+00		2643,178	14,868
R1 NO, 3	14	49	11187	0,2120E+03	0,1000E+00	0,1000E+00		38,035	6,429
R1 NO, 5	14	9	2792	0,5961E+02	0,5960E+07	0,6140E+01		71,470	37,843

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	PBAR	RE
R2 NO, 1	13	18	1540	0,5070E+03	0,2373E+01	0,7579E+01		773,439	1307,531

TABLE 4.3 (Cont'd)
EXPONENT L MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	9	10	1726	0,4742E+02	0,5960E+07	0,8056E+01	2555,655	1,131
R3	NO. 2	5	25	2261	0,1639E+02	0,1000E+00	0,1043E+03	17,489	1,227
R3	NO. 4	9	3	3105	0,4013E+03	0,1000E+00	0,1000E+00	669,519	3121,370
R3	NO. 6	2	67	4536	0,2959E+02	0,8992E+02	0,1577E+02	24,407	1,016
R3	NO. 7	1	5	8513	0,1879E+04	0,1000E+00	0,1000E+00	34,429	1,333
R3	NO. 8	1	4	6339	0,1371E+04	0,1000E+00	0,1000E+00	21,654	1,500

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	14	35400	0.2012E+04	0.1000E+00	0.1000E+00	32,040	1.083
R1	NO. 2	4	25	46840	0.1417E+04	0.1000E+00	0.1000E+00	34,030	1.043
R1	NO. 3	4	11	51440	0.4557E+04	0.1000E+00	0.1000E+00	6,949	1.111
R1	NO. 4	4	11	41798	0.7969E+04	0.1000E+00	0.1000E+00	47,069	1.111
R1	NO. 5	4	16	33680	0.1841E+04	0.1000E+00	0.1000E+00	16,501	1.071
R1	NO. 6	4	16	24920	0.1616E+04	0.1000E+00	0.1000E+00	26,427	1.071
R1	NO. 7	4	16	32800	0.1599E+04	0.1000E+00	0.1000E+00	44,685	1.071
R1	NO. 8	4	95	42000	0.3866E+03	0.1000E+00	0.1000E+00	40,486	1.011
R1	NO. 9	4	4	46800	0.3890E+04	0.1000E+00	0.1000E+00	30,806	1.500
R1	NO.10	4	36	47900	0.2621E+04	0.1000E+00	0.1000E+00	48,766	1.029
R1	NO.11	4	23	46860	0.1632E+04	0.1000E+00	0.1000E+00	17,447	1.048

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EXPONENTIAL MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	2	20	3415	0.1329E+03	0.1884E+00	0.3040E+02	7,027	0.897
R3	NO. 2	2	10	4536	0.4151E+03	0.1114E+01	0.2846E+02	19,467	0.211

TABLE 4.3 (CONT'D)
EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM - RADAR
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 2	11	178	6751	0.1525E+03	0.1000E+00	0.1000E+00	598,579	258,142
R1	NO. 3	12	170	24804	0.7001E+03	0.1000E+00	0.1000E+00	401,778	310,905
R1	NO. 4	11	244	7849	0.8310E+03	0.9904E+00	0.5827E+05	21,452	0,560
R1	NO. 5	11	114	4382	0.2822E+03	0.8810E+00	0.4201E+03	772,349	89,658
R1	NO. 6	12	148	18304	0.3523E+03	0.1000E+00	0.1000E+00	357,320	233,825
R1	NO. 8	11	200	7574	0.4978E+03	0.9191E+00	0.9576E+04	458,657	390,161

EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM - RADAR
IN - HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	14	2076	0.1252E+03	0.8936E+00	0.2961E+02	10,973	0,161
R3	NO. 2	1	53	5085	0.7498E+02	0.8625E+00	0.3038E+02	9,023	0,164

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EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM - MICROWAVE
IN - HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	34	1122	0.3850E+02	0.6483E+00	0.3806E+02	12,627	0,291

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM - MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE	
R1	NO. 1	5	17	407	0,2383E+02	0,5872E+00	0,2868E-01		19,287	0,885	
R1	NO. 2	5	54	3031	0,3735E+02	0,5960E-07	0,7099E-01		18,300	1,022	
R1	NO. 3	5	32	1373	0,6410E+02	0,6587E+01	0,1230E+00		24,874	0,882	
R1	NO. 4	5	48	7124	0,6979E+02	0,1000E+00	0,1106E+03		55,651	1,022	
R1	NO. 5	5	44	2662	0,5884E+02	0,7514E+01	0,1000E+00		15,490	0,904	
R1	NO. 6	4	135	42076	0,2919E+03	0,1000E+00	0,1000E+00		9,953	1,008	
R1	NO. 7	4	323	46856	0,9330E+02	0,1000E+00	0,2341E+03		24,230	1,003	
R1	NO. 8	4	299	47896	0,1952E+03	0,7425E+00	0,5193E-04		11,952	0,109	
R1	NO.10	5	5	161	0,2440E+02	0,3725E-08	0,7427E-01		10,847	1,337	
R1	NO.11	5	29	2767	0,1603E+03	0,6898E+00	0,1925E-03		14,888	0,416	
R1	NO.12	4	183	35400	0,1744E+03	0,1000E+00	0,1000E+00		16,671	1,004	
R1	NO.13	4	477	42618	0,5689E+02	0,1000E+00	0,4274E+02		14,032	1,005	
901	R1	NO.14	4	360	32800	0,6321E+02	0,5960E-07	0,7643E-01		37,146	1,003
R1	NO.16	4	302	33680	0,8639E+02	0,1000E+00	0,5031E+03		12,336	1,005	
R1	NO.17	4	181	41794	0,2079E+03	0,1000E+00	0,1000E+00		33,747	1,134	
R1	NO.18	4	184	51440	0,2781E+03	0,6071E+00	0,3824E-04		8,696	0,153	
R1	NO.20	4	184	18240	0,5689E+02	0,5960E-07	0,7643E-01		19,965	1,004	

TABLE 4.3 (Cont'd)
LLOYD - LIPOW MODEL
GROUND SYSTEM
ANTENNA
FIELD

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	12	7	18304	0.1256E+04	0.6048E+06		28,445	0.684
R1	NO, 2	12	3	24804	0.5396E+04	0.4875E+07		42,763	0.714
R1	NO, 3	5	3	2767	-0.4802E+02	-0.4698E+06		10,308	0.311
R1	NO, 4	5	9	3032	0.1604E+03	0.5847E+04		81,472	0.911
R1	NO, 5	5	6	1373	0.1839E+03	0.2993E+04		5,382	0.038
R1	NO, 6	5	6	7124	0.7948E+03	0.1457E+06		128,482	0.631
R1	NO, 7	5	4	2663	0.5191E+03	-0.6649E+04		12,853	1.497
R1	NO, 8	5	7	407	0.5844E+02	0.7552E+03		14,165	0.485
R1	NO, 9	4	18	42080	0.2789E+04	0.2654E+07		17,013	0.328
R1	NO, 10	4	14	46800	0.2308E+04	0.9620E+06		36,717	1.075
R1	NO, 11	4	23	47900	0.1673E+04	0.7047E+06		22,332	0.993
107 R1	NO, 12	4	41	46860	0.6519E+03	-0.3443E+07		32,300	0.701
R1	NO, 13	4	73	46840	0.4857E+03	-0.2072E+06		20,643	0.930
R1	NO, 14	4	13	51440	-0.7150E+04	-0.4520E+09		43,717	0.623
R1	NO, 15	4	28	31798	0.1241E+04	0.6318E+06		43,514	0.774
R1	NO, 16	4	33	18240	0.3362E+03	-0.8601E+05		29,527	0.976
R1	NO, 17	4	35	33680	0.1000E+04	-0.9830E+06		13,225	0.499
R1	NO, 18	4	14	24920	0.9930E+03	-0.1938E+07		15,277	0.534
R1	NO, 19	4	61	32800	0.4782E+03	0.1291E+06		34,221	0.773
R1	NO, 20	4	80	42000	0.3218E+03	0.2161E+05		9,275	0.969
R1	NO, 21	4	22	35400	0.8071E+03	-0.1316E+08		18,003	0.227

TABLE 4.3 (Cont'd)
LLOYD - LIPOW MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	4	3038	0,3083E+03	0,1974E+05			83,133	0,715
R3	NO. 2	1	5	5085	0,4674E+03	0,3685E+04			18,183	0,216
R3	NO. 3	18	4	3822	0,1880E+03	-0,7899E+04			8,764	1,194

LLOYD - LIPOW MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	15	16	2513	0,8701E+02	0,2042E+04			90,891	0,643
R1	NO. 2	12	99	24804	0,2351E+03	-0,3499E+05			9,524	0,868
R1	NO. 3	11	70	6751	0,6820E+02	0,5074E+03			75,618	0,707
R1	NO. 4	12	34	9165	0,1930E+03	0,2241E+05			24,638	0,823
R1	NO. 5	12	4	714	0,1418E+03	0,6161E+04			25,340	0,982
R1	NO. 6	12	77	18304	0,2052E+03	0,1177E+05			10,999	0,940
R1	NO. 7	11	71	4382	0,3295E+02	0,6115E+03			72,939	0,852
R1	NO. 8	11	129	7574	0,3938E+02	-0,3967E+04			28,054	0,951

TABLE 4.3 (Cont'd)
 LLOYD - LIPOW MODEL
 GROUND SYSTEM
 RADAR
 IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	28	6369	0.1342E+03	0.2237E+04		32,651	0.729
R3	NO, 2	1	3	2076	0.3454E+03	0.8096E+04		25,927	0.440
R3	NO, 3	18	18	3822	0.1810E+03	0.7389E+04		27,280	0.664
R3	NO, 4	18	12	5370	0.7680E+02	0.2577E+07		9,251	0.107
R3	NO, 5	18	11	4650	0.4810E+03	0.5527E+05		8,591	0.234

TABLE 4.3 (Cont'd)
LLOYD - LIPOW MODEL
GROUND SYSTEM
MICROWAVE
FIELD

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	114	42078	0,3420E+03	0,2272E+05		9,963	0,962
R1	NO. 2	4	259	46860	0,1114E+03	0,6190E+04		28,123	0,988
R1	NO. 3	4	240	47899	0,1572E+03	0,1336E+05		55,860	0,915
R1	NO. 4	4	183	46798	0,1223E+03	-,1307E+04		21,108	1,005
R1	NO. 5	5	10	407	0,4097E+02	0,3703E+03		19,117	0,951
R1	NO. 6	5	40	2663	0,6350E+02	0,7379E+03		18,432	0,926
R1	NO. 7	5	26	1373	-,2172E+02	-,1021E+06		9,668	0,095
R1	NO. 8	5	42	7124	0,9131E+02	0,6330E+04		46,411	0,907
R1	NO. 9	5	45	3032	0,5280E+02	0,7665E+03		16,298	0,956
R1	NO. 10	5	4	161	0,3694E+02	0,3845E+03		14,711	0,545
R1	NO. 11	5	26	2767	0,8955E+02	0,3905E+04		20,197	0,603
U1	R1 NO. 12	4	147	35400	0,2051E+03	-,1297E+05		13,555	0,983
R1	NO. 13	4	302	42618	0,8384E+02	-,1105E+05		17,487	0,942
R1	NO. 14	4	283	32800	0,7898E+02	0,4025E+04		36,450	0,964
R1	NO. 15	4	173	24920	0,1016E+03	0,2890E+04		23,277	0,991
R1	NO. 16	4	251	33680	0,9700E+02	-,1058E+04		14,303	1,002
R1	NO. 17	4	149	18240	0,7062E+02	0,2457E+04		20,211	0,933
R1	NO. 18	4	142	41798	0,2966E+03	0,5760E+05		30,930	0,938
R1	NO. 19	4	160	51440	0,1998E+03	0,2047E+05		22,794	0,835
R1	NO. 20	4	448	46834	0,6992E+02	-,3549E+04		21,323	0,988

TABLE 4.3 (Cont'd) MODEL
 LLOYD - LIPON
 GROUND SYSTEM
 MICROWAVE
 IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	5	33	1122	0,3496E+02	0,6105E+03			22,347	0,6

LLOYD - LIPON MODEL
 GROUND SYSTEM
 DISPLAY
 FIELD

III	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO. 1	11	34	11490	0,1880E+03	0,1616E+05			81,739	0,8
R1 NO. 2	11	17	4382	0,1628E+03	0,9858E+04			60,125	0,6
R1 NO. 3	12	30	18304	0,3661E+03	0,3194E+05			21,990	0,9
R1 NO. 4	12	7	9165	0,4078E+03	0,2692E+05			244,899	1,0
R1 NO. 5	12	4	714	0,9710E+02	0,1269E+04			22,215	0,3
R1 NO. 6	11	49	9663	0,1589E+03	0,9166E+04			16,619	0,9
R1 NO. 7	11	117	10809	0,8907E+02	-0,2180E+05			4,601	0,3
R1 NO. 8	12	33	24804	0,5570E+03	-0,9311E+06			20,588	0,8
R1 NO. 9	11	177	7849	0,1896E+02	0,2632E+03			50,529	0,9

TABLE 4.3 (Cont'd)
LLOYD - LIPOR MODEL
GROUND SYSTEM
DISPLAY
FIELD

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,4557E+03	0,8009E+05		28,048	0,830
R2	NO, 2	8	7	8246	0,7081E+03	0,1893E+06		44,562	0,836
R2	NO, 3	8	16	7570	0,3326E+03	0,2084E+05		22,319	0,845
R2	NO, 4	8	11	9425	0,8909E+03	0,1812E+06		10,688	0,771
R2	NO, 5	8	15	45376	0,1056E+04	0,9271E+06		37,334	0,859
R2	NO, 6	8	4	22037	0,3995E+04	0,4825E+07		45,659	0,811
R2	NO, 7	8	9	45059	0,1492E+04	0,5352E+06		9,688	0,339
R2	NO, 8	8	17	8979	0,6191E+03	0,4262E+06		18,599	0,727
R2	NO, 9	8	18	11916	0,5838E+03	0,4832E+05		6,712	0,864
R2	NO, 10	8	11	17219	0,1472E+04	0,1930E+05		0,604	1,053
R2	NO, 11	8	3	2237	0,2263E+02	0,1661E+07		3,052	0,032
112 R2	NO, 12	8	4	2247	0,5887E+03	0,8690E+05		1,669	0,018
R2	NO, 13	8	3	2332	0,8240E+03	0,1672E+06		2,864	0,030
R2	NO, 14	8	3	1980	0,6538E+03	0,1149E+06		14,475	0,780
R2	NO, 15	8	3	631	0,4355E+02	0,1017E+06		2,404	0,025
R2	NO, 16	8	4	3492	0,8702E+03	0,7036E+05		1,651	0,601
R2	NO, 17	8	11	4096	0,3995E+03	0,1286E+05		3,385	0,887
R2	NO, 18	8	14	44314	0,2051E+04	0,4358E+06		21,541	0,360
R2	NO, 19	8	9	45376	0,2417E+04	0,1792E+07		28,700	0,526
R2	NO, 20	8	6	33328	0,1732E+04	0,9471E+06		18,813	1,167

TABLE 4.3 Cont'd)
LLOYD - LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO,21	8	3	45221	0,1125E+05	0,6793E+07		25,752	0,43
R2	NO,22	8	16	45477	0,1573E+04	0,3133E+06		159,760	0,66
R2	NO,23	8	10	45261	0,3587E+04	0,2271E+07		9,284	0,31

LLOYD - LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
113 R3	NO, 1	17	5	3784	0,7003E+03	0,3438E+05		75,385	0,53
R3	NO, 2	2	12	6336	0,3394E+03	0,4662E+05		30,732	0,83
R3	NO, 3	2	8	4576	0,2844E+03	0,1013E+05		40,212	0,60

TABLE 4.3 (Cont'd)
LLOYD - LIPOW MODEL
GROUND SYSTEM
DISPLAY
IN - HOUSE

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	105	2700	0,7006E+01	0,3201E+02			37,010	0,95
R2	NO, 2	8	100	3200	0,1370E+02	0,1119E+03			74,530	0,92
R2	NO, 3	8	50	3700	0,4000E+02	0,8488E+03			85,001	0,85
R2	NO, 4	8	33	3700	0,4259E+02	0,2642E+04			118,731	0,89
R2	NO, 5	8	16	2500	0,1183E+03	0,5799E+04			31,100	0,89

LLOYD - LIPOW MODEL
GROUND SYSTEM
DISPLAY
IN - HOUSE

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,7289E+02	0,1482E+04			47,602	0,66
R3	NO, 2	7	32	2248	0,6252E+02	0,5324E+03			31,551	0,85
R3	NO, 3	7	12	3322	0,1521E+03	-,2839E+06			38,338	0,92
R3	NO, 4	2	384	3415	0,5408E+01	0,7000E+01			9,108	0,98
R3	NO, 5	2	211	4536	0,2186E+02	-,5605E+03			25,824	0,95
R3	NO, 6	1	6	4659	-,5261E+03	-,9525E+06			6,432	0,02
R3	NO, 7	1	21	6144	0,2171E+03	-,1189E+05			13,253	0,96

TABLE 4.3 (Cont'd)
LLOYD - LIPON MODEL
GROUND SYSTEM
COMPUTER
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0.2285E+03	0.2101E+05		35,860	0.72
R1	NO. 2	11	33	5703	0.9256E+02	0.2274E+04		191,189	0.80
R1	NO. 3	12	16	9165	0.4802E+03	0.2941E+05		70,781	0.40
R1	NO. 4	15	19	11800	0.3941E+03	-0.4475E+05		10,652	0.89
R1	NO. 5	12	35	18304	0.2453E+03	0.1669E+05		40,598	0.65
R1	NO. 6	16	5	2513	0.4322E+03	0.3738E+05		6,054	0.09
R1	NO. 7	15	9	11209	0.9382E+03	0.3044E+06		20,138	0.62
R1	NO. 8	15	7	18642	0.2988E+04	-0.3581E+07		14,533	0.99
R1	NO. 9	15	9	16192	0.1158E+04	-0.1801E+07		12,373	0.58
R1	NO.10	15	19	23495	0.1251E+04	0.5972E+06		19,496	0.47
R1	NO.11	15	10	15741	0.6926E+03	-0.6152E+04		8,812	1.12
R1	NO.12	15	17	23572	0.1312E+04	0.5224E+06		13,525	0.68
115 R1	NO.13	15	20	15756	0.7240E+03	-0.2245E+06		10,372	0.78
R1	NO.14	15	16	13960	0.7535E+03	-0.3378E+05		4,098	1.00
R1	NO.15	15	34	23680	0.6039E+03	0.1552E+06		20,647	0.74
R1	NO.16	11	35	10323	0.2195E+03	0.1567E+05		13,788	0.86
R1	NO.17	12	41	24804	0.6024E+03	-0.3544E+05		26,290	1.02
R1	NO.18	11	36	9833	0.3646E+03	-0.4830E+04		15,922	1.02
R1	NO.19	11	35	12141	0.2439E+03	0.2829E+05		38,494	0.75

TABLE 4.3 (Cont'd)
LLOYD - LIPOW MODEL
GROUND SYSTEM
COMPUTER
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	17	10	3965	0,2993E+03	0,1282E+04		222,169	0,850
R3	NO. 2	2	16	4576	0,1925E+03	0,8366E+04		96,132	0,500
R3	NO. 3	2	9	6336	0,5970E+03	0,2922E+06		6,188	0,42

LLOYD - LIPOW MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	46	4467	0,5285E+02	0,1555E+04		42,998	0,773
R1	NO. 2	14	12	2043	0,1158E+03	0,2765E+03		337,224	0,59
911 R1	NO. 3	14	43	11189	0,3404E+03	0,5315E+05		16,264	0,903
R1	NO. 4	14	45	10666	0,3041E+03	0,4332E+05		15,137	0,884
R1	NO. 5	14	9	2792	0,2334E+03	0,1294E+05		7,252	0,50

LLOYD - LIPOW MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	13	18	1540	0,6102E+02	0,3000E+03		14,291	1,05

TABLE 4.3 (Cont'd)
LLOYD - LIPOW MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	9	10	1726	0,6780E+02	0,1073E+03		2004,268	0,84
R3	NO. 2	9	25	2261	0,2741E+02	0,3915E+03		45,128	0,99
R3	NO. 3	9	24	2370	0,6497E+02	0,3246E+04		68,758	0,70
R3	NO. 4	9	3	3105	0,4106E+02	-,1154E+04		12,626	1,49
R3	NO. 5	2	74	3415	0,2547E+02	0,2678E+03		17,350	0,91
R3	NO. 6	2	67	4536	0,3004E+02	0,1273E+03		24,823	1,01
R3	NO. 7	1	5	8513	-,1629E+04	-,1552E+08		20,852	0,39
R3	NO. 8	1	4	6339	0,1581E+04	0,5126E+06		18,414	1,26

TABLE 4.3 (Cont'd)
LLOYD - LIPON MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO, 1	4	14	35400	0,1017E+04	-0,9658E+07			35,086	0,74
R1	NO, 2	4	25	46840	0,1110E+04	-0,3192E+07			33,904	0,84
R1	NO, 3	4	11	51440	0,4466E+04	-0,1534E+07			6,572	1,04
R1	NO, 4	4	11	41798	-0,7640E+04	-0,5187E+09			14,985	0,22
R1	NO, 5	4	16	33690	0,1466E+04	-0,3700E+07			12,362	0,44
R1	NO, 6	4	16	24920	0,1759E+04	0,6684E+06			13,524	0,44
R1	NO, 7	4	16	32800	0,1947E+04	0,1822E+07			29,846	0,54
R1	NO, 8	4	95	42000	0,4248E+03	0,1777E+06			30,752	0,74
R1	NO, 9	4	4	46800	0,5489E+04	0,1029E+08			30,126	0,84
R1	NO, 10	4	36	47900	0,6584E+03	-0,5776E+08			24,862	0,34
R1	NO, 11	4	23	46860	0,1496E+04	-0,1470E+07			18,818	0,94
R1	NO, 12	4	3	42080	0,8380E+04	0,1705E+08			12,906	0,94

LLOYD - LIPON MODEL
GROUND SYSTEM
COMMUNICATIONS
IN - HOUSE

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R3	NO, 1	2	20	3415	0,1337E+03	0,2235E+04			7,423	0,94
R3	NO, 2	2	10	4536	0,4203E+03	0,3346E+05			33,882	0,32

TABLE 4.3 (Cont'd)
LLOYD - LIPOW MODEL
GROUND SYSTEM
SYSTEM - RADAR
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	24	2513	0,6828E+02	0,1547E+04		54,648	0,546
R1	NO. 2	11	178	6751	0,2614E+02	0,1811E+03		30,809	0,838
R1	NO. 3	12	170	24804	0,1318E+03	-,6623E+05		9,521	0,544
R1	NO. 4	11	244	7849	0,1600E+02	0,1888E+03		39,038	0,953
R1	NO. 5	11	114	4382	0,1516E+02	0,1438E+03		109,147	0,934
R1	NO. 6	12	148	18304	0,8439E+02	0,4150E+04		16,124	0,806
R1	NO. 7	12	57	9165	0,1022E+03	0,6127E+04		63,936	0,723
R1	NO. 8	11	200	7574	0,2364E+02	0,3132E+03		25,309	0,970

LLOYD - LIPOW MODEL
GROUND SYSTEM
SYSTEM - RADAR
IN - HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	14	2076	0,1128E+03	0,2752E+04		33,195	0,494
R3	NO. 2	1	53	5085	0,7155E+02	0,6408E+03		20,217	0,466

LLOYD - LIPOW MODEL
GROUND SYSTEM
SYSTEM - MICROWAVE
IN - HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	34	1122	0,3196E+02	0,5289E+03		23,441	0,694

TABLE 4.3 (Cont'd)
LLOYD - LIPOW MODEL
GROUND SYSTEM
SYSTEM - MICROWAVE
FIELD

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,2486E+02	0,1694E+03		0,459	0,913
R1	NO, 2	5	54	3031	0,3966E+02	0,7068E+03		17,758	0,875
R1	NO, 3	5	32	1373	0,6533E+02	0,7199E+03		26,896	0,926
R1	NO, 4	5	48	7124	0,8094E+02	0,6096E+04		53,582	0,898
R1	NO, 5	5	44	2662	0,5976E+02	0,5923E+03		16,926	0,970
R1	NO, 6	4	135	42076	0,2945E+03	0,1429E+05		9,879	0,983
R1	NO, 7	4	323	46856	0,9405E+02	0,1273E+04		24,072	1,002
R1	NO, 8	4	299	47896	0,1386E+03	0,1100E+05		43,094	0,911
R1	NO, 9	4	201	46798	0,1141E+03	0,4932E+04		21,184	1,071
R1	NO, 10	5	5	161	0,2767E+02	0,1552E+03		10,662	0,915
R1	NO, 11	5	29	2767	0,7784E+02	0,2725E+04		18,359	0,719
120 R1	NO, 12	4	183	35400	0,1706E+03	0,2745E+05		15,923	0,935
R1	NO, 13	4	477	42618	0,5712E+02	0,1261E+04		14,084	0,993
R1	NO, 14	4	360	32800	0,6487E+02	0,2972E+04		36,838	0,964
R1	NO, 15	4	203	24920	0,9073E+02	0,2388E+04		20,290	0,986
R1	NO, 16	4	302	33680	0,8608E+02	0,3646E+04		12,315	0,974
R1	NO, 17	4	181	41794	0,2391E+03	0,3673E+05		31,685	0,931
R1	NO, 18	4	184	51440	0,1931E+03	0,1921E+05		19,426	0,817
R1	NO, 19	4	546	46840	0,5888E+02	0,6616E+04		21,108	0,945
R1	NO, 20	4	184	18240	0,5832E+02	0,1502E+04		20,064	0,964

TABLE 4.3 (Cont'd)
AROE MODEL
GROUND SYSTEM
ANTENNA
FIELD

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	12	7	18304	0,1213E+04	0,6058E+03		26,673	0,634
R1	NO, 2	12	3	24804	0,5307E+04	0,1765E+04		27,315	0,574
R1	NO, 3	5	3	2767	0,1641E+03	-,9257E+03		10,695	0,344
R1	NO, 4	5	9	3032	0,1302E+03	0,5398E+02		44,449	0,941
R1	NO, 5	5	6	1373	0,1914E+03	0,4257E+02		3,942	0,031
R1	NO, 6	5	6	7124	0,6081E+03	0,3087E+03		66,511	0,656
R1	NO, 7	5	4	2663	0,5099E+03	-,2027E+02		13,164	1,506
R1	NO, 8	5	7	407	0,5964E+02	0,2170E+02		12,831	0,488
R1	NO, 9	4	18	42080	0,2798E+04	0,1458E+04		14,791	0,253
R1	NO, 10	4	14	46800	0,2193E+04	0,5618E+03		33,320	1,102
R1	NO, 11	4	23	47900	0,1630E+04	0,4769E+03		22,156	0,996
R1	NO, 12	4	41	46860	0,7437E+03	-,2131E+04		26,967	0,702
121 R1	NO, 13	4	73	46840	0,4828E+03	-,2564E+03		19,574	0,942
R1	NO, 14	4	13	51440	0,1141E+04	-,5231E+05		25,365	0,606
R1	NO, 15	4	28	31798	0,1155E+04	0,6826E+03		38,487	0,741
R1	NO, 16	4	33	18240	0,3221E+03	-,2097E+03		26,580	0,994
R1	NO, 17	4	35	33680	0,1003E+04	-,7604E+03		13,196	0,699
R1	NO, 18	4	14	24920	0,1015E+04	-,1372E+04		15,528	0,613
R1	NO, 19	4	61	32800	0,4522E+03	0,3313E+03		32,241	0,733
R1	NO, 20	4	80	42000	0,3184E+03	0,6740E+02		8,891	0,972
R1	NO, 21	4	22	35400	0,1116E+04	-,5560E+04		15,648	0,187

TABLE 4.3 (Cont'd)
AROE MODEL
GROUND SYSTEM
ANTENNA
IN HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3038	0,2687E+03	0,1125E+03		44,975	0,64
R3	NO, 2	1	5	5085	0,4662E+03	0,3254E+02		13,881	0,19
R3	NO, 3	18	4	3822	0,1865E+03	0,4079E+02		8,927	1,20

AROE MODEL
GROUND SYSTEM
RADAR
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,7425E+02	0,4276E+02		54,180	0,61
R1	NO, 2	12	99	24804	0,2334E+03	0,1310E+03		9,257	0,81
122 R1	NO, 3	11	70	6751	0,6319E+02	0,1999E+02		44,826	0,64
R1	NO, 4	12	34	9165	0,1867E+03	0,1504E+03		25,668	0,71
R1	NO, 5	12	4	714	0,1337E+03	0,4682E+02		22,578	0,91
R1	NO, 6	12	77	18304	0,2031E+03	0,6871E+02		10,732	0,91
R1	NO, 7	11	71	4382	0,2771E+02	0,2416E+02		58,074	0,81
R1	NO, 8	11	129	7574	0,4052E+02	0,6749E+01		23,252	1,01

TABLE 4.3 (Cont'd)
 ARCEP MODEL
 GROUND SYSTEM
 RADAR
 IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	28	6369	0,1296E+03	0,3647E+02		24,804	0,654
R3	NO. 2	1	3	2076	0,3499E+03	0,6621E+02		18,557	0,369
R3	NO. 3	18	18	3822	0,1773E+03	0,6881E+02		22,687	0,609
R3	NO. 4	18	12	5370	0,2673E+03	- ,2040E+04		8,283	0,057
R3	NO. 5	16	11	4650	0,4914E+03	0,1821E+03		7,842	0,223

TABLE 4.3 (Cont'd)
AROE MODEL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	114	42078	0,3397E+03	0,6578E+02			9,884	0,96
R1	NO. 2	4	259	46860	0,1057E+03	0,4717E+02			26,359	1,00
R1	NO. 3	4	240	47899	0,1408E+03	0,1198E+03			48,788	0,94
R1	NO. 4	4	183	46798	0,1166E+03	-,1545E+02			19,955	1,02
R1	NO. 5	5	10	407	0,4013E+02	0,1064E+02			18,014	0,96
R1	NO. 6	5	40	2663	0,6299E+02	0,1961E+02			14,041	0,96
R1	NO. 7	5	26	1373	0,3549E+02	-,7616E+03			11,994	0,18
R1	NO. 8	5	42	7124	0,8049E+02	0,6528E+02			38,489	0,93
R1	NO. 9	5	45	3632	0,5208E+02	0,1694E+02			15,613	0,95
R1	NO. 10	5	4	161	0,3696E+02	0,1321E+02			12,555	0,47
R1	NO. 11	5	26	2767	0,8827E+02	0,5834E+02			18,504	0,54
R1	NO. 12	4	147	35400	0,2020E+03	-,5965E+02			12,904	0,99
R1	NO. 13	4	302	42618	0,8188E+02	-,9547E+02			16,652	0,96
R1	NO. 14	4	283	32800	0,7364E+02	0,5150E+02			32,991	0,98
R1	NO. 15	4	173	24920	0,4830E+02	0,2738E+02			22,485	1,00
R1	NO. 16	4	251	33680	0,9547E+02	-,9224E+01			14,268	1,01
R1	NO. 17	4	149	18240	0,6840E+02	0,3776E+02			18,769	0,93
R1	NO. 18	4	142	41798	0,2824E+03	0,2195E+03			30,815	0,94
R1	NO. 19	4	160	51440	0,1932E+03	0,1368E+03			22,075	0,79
R1	NO. 20	4	448	46834	0,6815E+02	-,3987E+02			20,217	1,00

TABLE 4.3 (Cont'd)
ARDEF MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	33	1122	0,3411E+02	0,2286E+0		21,265	0,57

ARDEF MODEL
GROUND SYSTEM
DISPLAY
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0,1544E+03	0,1171E+03		57,431	0,83
R1	NO. 2	11	17	4382	0,1461E+03	0,9051E+02		43,936	0,57
R1	NO. 3	12	30	18304	0,3538E+03	0,9684E+02		20,583	0,99
R1	NO. 4	12	7	9165	0,2032E+03	0,9426E+02		69,094	1,15
R1	NO. 5	12	4	714	0,1001E+03	0,2883E+02		14,862	0,29
R1	NO. 6	11	49	9663	0,1582E+03	0,8792E+02		15,638	0,94
R1	NO. 7	11	117	10809	0,9022E+02	0,1719E+03		4,477	0,43
R1	NO. 8	12	33	24804	0,6020E+03	-0,6941E+03		16,311	0,48
R1	NO. 9	11	177	7849	0,1668E+02	0,1370E+02		40,797	0,98

TABLE 4.3 (Cont'd)
AROE MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	8	15	9425	0.4329E+03	0.1040E+03			24.919	0.819
R2	NO. 2	8	7	8246	0.6226E+03	0.3027E+03			33.534	0.83P
R2	NO. 3	8	16	7970	0.3189E+03	0.1275E+03			19.818	0.833
R2	NO. 4	8	11	9425	0.8835E+03	0.2159E+03			10.253	0.751
R2	NO. 5	8	19	45376	0.9519E+03	0.5130E+03			32.782	0.864
R2	NO. 6	8	4	22037	0.3631E+04	0.1603E+04			31.967	0.766
R2	NO. 7	8	9	45059	0.1524E+04	0.5598E+03			9.022	0.343
R2	NO. 8	8	17	8979	0.6093E+03	-0.5812E+03			18.543	0.803
R2	NO. 9	8	18	11916	0.5816E+03	0.8310E+02			6.570	0.857
R2	NO. 10	8	11	17219	0.1472E+04	0.1293E+02			0.599	1.053
126 R2	NO. 11	8	3	2237	0.3502E+03	-0.1660E+04			1.407	0.007
R2	NO. 12	8	4	2247	0.6075E+03	0.2050E+03			0.902	0.006
R2	NO. 13	8	3	2332	0.8732E+03	0.3211E+03			1.646	0.011
R2	NO. 14	8	3	1980	0.6523E+03	0.2181E+03			13.208	0.702
R2	NO. 15	8	3	631	0.1155E+03	-0.3712E+03			1.116	0.005
R2	NO. 16	8	4	3492	0.8706E+03	-0.8176E+02			1.655	0.612
R2	NO. 17	8	11	4096	0.3990E+03	-0.3210E+02			3.426	0.893
R2	NO. 18	8	14	44314	0.2059E+04	0.5130E+03			15.036	0.266
R2	NO. 19	8	9	45376	0.2376E+04	0.1204E+04			21.729	0.462

TABLE 4.3 (Cont'd)
ARDEF MODEL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO,20	8	6	33328	0,1750E+04	-0,3530E+03		18,448	1,187
R2	NO,21	8	3	45221	0,1132E+09	0,1830E+04		18,692	0,371
R2	NO,22	8	16	48477	0,1271E+04	0,4660E+03		77,545	0,669
R2	NO,23	8	10	45261	0,3679E+04	0,1230E+04		8,651	0,340

ARDEF MODEL
GROUND SYSTEM
DISPLAY
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
127 R3	NO, 1	17	5	3784	0,6481E+03	0,1318E+03		45,129	0,442
R3	NO, 2	2	12	6336	0,3181E+03	0,1500E+03		26,776	0,817
R3	NO, 3	2	8	4976	0,2778E+03	0,7821E+02		28,427	0,531

TABLE 4.3 (Cont'd)
ARDEF MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	7	17	2193	0,6796E+02	0,3519E+02			39,598	0,626
R3	NO. 2	7	32	2248	0,6010E+02	0,1808E+02			28,944	0,872
R3	NO. 3	7	12	3322	0,2105E+03	-0,5122E+03			29,009	0,976
R3	NO. 4	2	384	3415	0,5370E+01	0,1221E+01			8,750	0,987
R3	NO. 5	2	211	4536	0,2086E+02	-0,2411E+02			23,418	1,005
R3	NO. 6	1	6	4699	0,4379E+02	-0,2174E+04			8,227	0,047
R3	NO. 7	1	21	6144	0,2147E+03	-0,9275E+02			13,189	0,978

ARDEF MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

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		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	8	105	2700	0,6255E+01	0,4644E+01			31,425	0,978
R2	NO. 2	8	100	3200	0,1106E+02	0,9863E+01			50,476	0,980
R2	NO. 3	8	50	3700	0,3218E+02	0,2705E+02			59,622	0,902
R2	NO. 4	8	33	3700	0,2399E+02	0,4742E+02			70,154	1,028
R2	NO. 5	8	16	2500	0,1113E+03	0,4869E+02			28,942	0,887

TABLE 1.3 (Cont'd)
AROE MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0.2167E+03	0.1308E+03			29,314	0.677
R1	NO. 2	11	33	5703	0.6125E+02	0.4203E+02			100,452	0.936
R1	NO. 3	12	16	9165	0.4578E+03	0.1590E+03			39,132	0.330
R1	NO. 4	15	19	11800	0.3904E+03	-0.1118E+03			10,669	0.910
R1	NO. 5	12	39	18304	0.2331E+03	0.1303E+03			29,435	0.594
R1	NO. 6	16	5	2513	0.4552E+03	0.1542E+03			6,695	0.122
R1	NO. 7	15	9	11209	0.9177E+03	0.3948E+03			17,295	0.567
R1	NO. 8	15	7	18642	0.2931E+04	-0.1152E+04			14,343	1.019
R1	NO. 9	15	9	16192	0.1186E+04	-0.1124E+04			12,445	0.601
R1	NO. 10	15	19	23495	0.1235E+04	0.6514E+03			17,319	0.387
R1	NO. 11	15	10	15741	0.6815E+03	-0.2603E+02			8,844	1.131
129 R1	NO. 12	15	17	23572	0.1298E+04	0.4394E+03			13,009	0.649
R1	NO. 13	15	20	15756	0.7206E+03	-0.2797E+03			10,535	0.799
R1	NO. 14	15	16	13960	0.7522E+03	-0.4585E+02			4,099	1.002
R1	NO. 15	15	34	23680	0.5905E+03	0.2912E+03			19,633	0.704
R1	NO. 16	11	35	10323	0.2159E+03	0.7310E+02			12,638	0.858
R1	NO. 17	12	41	24804	0.6090E+03	0.2933E+03			23,038	1.072
R1	NO. 18	11	36	9833	0.3576E+03	-0.1981E+02			15,305	1.037
R1	NO. 19	11	35	12141	0.2284E+03	0.1475E+03			32,599	0.724

TABLE 4.3 (Cont'd)
 AROEF MODEL
 GROUND SYSTEM
 COMPUTER
 FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3465	0,2232E+03	0,1677E+02			106,968	0,952
R3	NO, 2	2	16	6576	0,1700E+03	0,9316E+02			60,604	0,458
R3	NO, 3	2	9	6336	0,6077E+03	-0,3793E+03			6,225	0,436

AROEF MODEL
 GROUND SYSTEM
 COMPUTER
 IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	46	4467	0,4843E+02	0,3951E+02			35,043	0,740
13 R1	NO, 2	14	12	2043	0,9850E+02	0,9398E+01			77,191	0,596
R1	NO, 3	14	43	11189	0,3344E+03	-0,1565E+03			16,342	0,932
R1	NO, 4	14	45	10466	0,2998E+03	-0,1404E+03			15,141	0,916
R1	NO, 5	14	9	2742	0,2331E+03	0,6234E+02			6,890	0,463

AROEF MODEL
 GROUND SYSTEM
 COMPUTER
 IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,5977E+02	0,4296E+01			13,273	1,060

TABLE 4.3 (Cont'd)
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	9	10	1726	0.1599E+02	0.4307E+01			215,406	1,272
R3	NO, 2	9	25	2261	0.2282E+02	0.1203E+02			29,010	0,999
R3	NO, 3	9	24	2370	0.5436E+02	0.6494E+02			53,350	0,711
R3	NO, 4	9	3	3105	0.4111E+02	-0.2304E+02			12,443	1,470
R3	NO, 5	2	74	3415	0.2403E+02	0.1052E+02			15,941	0,916
R3	NO, 6	2	67	4536	0.2867E+02	0.1331E+01			23,463	1,030
R3	NO, 7	1	5	8513	0.3158E+03	-0.7535E+04			14,685	0,303
R3	NO, 8	1	4	6339	0.1533E+04	0.3524E+03			16,905	1,283

TABLE 4.3 (Cont'd)
AROE MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	14	35400	0.1346E+04	-0.3132E+04			28,294	0.812
R1	NO. 2	4	25	46840	0.1135E+04	-0.1586E+04			30,715	0.870
R1	NO. 3	4	11	51440	0.4450E+04	-0.3486E+03			6,619	1.054
R1	NO. 4	4	11	41798	0.1403E+04	-0.5334E+05			19,261	0.235
R1	NO. 5	4	16	33680	0.1507E+04	-0.1757E+04			12,689	0.499
R1	NO. 6	4	16	24920	0.1778E+04	0.6470E+03			12,776	0.451
R1	NO. 7	4	16	32800	0.1877E+04	0.1271E+04			26,436	0.451
R1	NO. 8	4	95	42000	0.4102E+03	0.6428E+03			26,866	0.683
R1	NO. 9	4	4	46800	0.5243E+04	0.2310E+04			27,105	0.809
R1	NO.10	4	36	47900	0.1299E+04	-0.1663E+05			24,827	0.823
R1	NO.11	4	23	46860	0.1511E+04	-0.5430E+03			17,568	0.966
R1	NO.12	4	3	42080	0.8496E+04	0.2712E+04			12,676	0.940

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AROE MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	2	20	3415	0.1332E+03	0.1691E+02			7,277	0.940
R3	NO. 2	2	10	4526	0.4206E+03	0.1609E+03			21,907	0.274

TABLE 4.3 (Cont'd)
ARDEF MODEL
GROUND SYSTEM
SYSTEM - RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	24	2513	0,6317E+02	0,3949E+02			40,623	0,459
R1	NO. 2	11	178	6751	0,2513E+02	0,1327E+02			25,941	0,799
R1	NO. 3	12	170	24804	0,1333E+03	-0,3214E+03			9,081	0,619
R1	NO. 4	11	244	7849	0,1475E+02	0,1212E+02			34,328	0,975
R1	NO. 5	11	114	4382	0,1099E+02	0,1101E+02			67,890	1,031
R1	NO. 6	12	148	18304	0,8287E+02	0,6347E+02			15,130	0,768
R1	NO. 7	12	57	9165	0,9070E+02	0,9183E+02			49,660	0,697
R1	NO. 8	11	200	7574	0,2269E+02	0,1272E+02			23,493	0,980

ARDEF MODEL
GROUND SYSTEM
SYSTEM - RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	14	2076	0,1109E+03	0,4393E+02			23,330	0,392
R3	NO. 2	1	53	5085	0,7106E+02	0,2141E+02			13,083	0,361

ARDEF MODEL
GROUND SYSTEM
SYSTEM - MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	34	1122	0,3106E+02	0,2093E+02			22,923	0,630

TABLE 4.3 (Cont'd)
AROE MODEL
GROUND SYSTEM
SYSTEM = MICROWAVE
FIELD

	SYNO	NO, FAIL	HOURS	P1	P2	P3	P4	RB/R	RE
R1	NO, 1	5	17	407	0,2432E+02	0,8133E+01		19,527	0,924
R1	NO, 2	5	54	3031	0,3871E+02	0,1894E+02		16,501	0,861
R1	NO, 3	5	32	1373	0,6341E+02	0,2066E+02		24,731	0,972
R1	NO, 4	5	48	7124	0,6969E+02	0,7455E+02		43,697	0,926
R1	NO, 5	5	44	2662	0,5888E+02	0,1701E+02		16,409	1,005
R1	NO, 6	4	135	42076	0,2927E+03	0,4845E+02		9,832	0,983
R1	NO, 7	4	323	46856	0,9043E+02	0,7615E+01		23,252	1,020
R1	NO, 8	4	299	47896	0,1286E+03	0,1096E+03		39,917	0,918
R1	NO, 9	4	201	46798	0,1091E+03	-,4216E+02		19,168	1,017
R1	NO, 10	5	5	161	0,2734E+02	0,5869E+01		9,835	0,900
R1	NO, 11	3	29	2767	0,7679E+02	0,4437E+02		17,432	0,882
R1	NO, 12	4	183	35400	0,1669E+03	-,1420E+03		14,955	0,975
R1	NO, 13	4	477	42618	0,5629E+02	-,1943E+02		13,951	1,000
R1	NO, 14	4	360	32800	0,4057E+02	0,4671E+02		33,858	0,989
R1	NO, 15	4	203	24920	0,8841E+02	0,2703E+02		19,758	0,998
R1	NO, 16	4	302	33680	0,8504E+02	-,3467E+02		12,127	0,903
R1	NO, 17	4	181	41794	0,2270E+03	0,1737E+03		31,596	0,937
R1	NO, 18	4	184	51440	0,1883E+03	0,1343E+03		19,065	0,772
R1	NO, 19	4	546	46840	0,5761E+02	-,8101E+02		20,056	0,961
R1	NO, 20	4	184	18240	0,5652E+02	0,2593E+02		18,586	0,972

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	12	7	18304	0.6002E+03	0.9676E-04			14.929	0.251
R1	NO. 2	12	3	24804	0.1205E+04	0.8816E-04			19.462	0.078
R1	NO. 3	5	3	2767	0.1705E+04	-0.1412E-02			9.986	0.296
R1	NO. 4	5	9	3032	0.5530E+02	0.6424E-03			15.018	0.050
R1	NO. 5	5	6	1373	0.4196E+02	0.1758E-02			55.120	1.671
R1	NO. 6	5	6	7124	0.1446E+03	0.3263E-03			14.748	0.154
R1	NO. 7	5	4	2663	0.4856E+03	0.5261E-04			13.094	1.403
R1	NO. 8	5	7	407	0.2644E+02	0.2696E-02			26.584	0.960
R1	NO. 9	4	18	42080	0.1467E+04	0.1816E-04			21.409	0.663
R1	NO. 10	4	14	46800	0.1573E+04	0.1559E-04			20.684	0.688
R1	NO. 11	4	23	47900	0.1202E+04	0.1229E-04			13.547	0.518
R1	NO. 12	4	41	46860	0.8208E+03	0.4954E-05			22.665	1.049
R1	NO. 13	4	73	46840	0.4211E+03	0.8516E-05			11.516	0.780
R1	NO. 14	4	13	51440	0.2268E+05	-0.3959E-04			28.626	0.755
R1	NO. 15	4	28	31798	0.5703E+03	0.3112E-04			22.157	0.377
R1	NO. 16	4	33	18240	0.2877E+03	0.2864E-04			23.251	0.822
R1	NO. 17	4	35	33680	0.1399E+04	-0.1431E-04			8.519	0.435
R1	NO. 18	4	14	24920	0.1733E+04	-0.3678E-04			17.158	0.546
R1	NO. 19	4	61	32800	0.2525E+03	0.3106E-04			16.299	0.294
R1	NO. 20	4	80	42000	0.2793E+03	0.8843E-05			8.604	0.607
R1	NO. 21	4	22	35400	0.2612E+04	-0.1979E-04			23.758	0.720

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3038	0,6716E+02	0,1101E+02			15,373	0,045
R3	NO, 2	1	5	5085	0,3380E+02	0,1305E+02			113,363	2,425
R3	NO, 3	18	4	3822	0,2436E+03	-0,3342E+03			0,264	1,060

SIMPLE EXPONENTIAL
GROUND SYSTEM
RADAR
FIELD

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,2317E+02	0,9653E+03			36,401	0,561
R1	NO, 2	12	99	24804	0,2699E+03	-0,1045E+04			9,413	0,763
R1	NO, 3	11	70	6751	0,2730E+02	0,2504E+03			52,523	0,477
R1	NO, 4	12	34	9165	0,1133E+03	0,1096E+03			18,829	0,416
R1	NO, 5	12	4	714	0,7350E+02	0,1159E+02			10,938	0,171
R1	NO, 6	12	77	18304	0,1803E+03	0,1199E+04			10,966	0,939
R1	NO, 7	11	71	4382	0,1275E+02	0,4615E+03			16,287	0,187
R1	NO, 8	11	129	7574	0,3277E+02	0,7483E+04			10,783	0,925

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	28	6369	0,6864E+02	0,2327E-03			26,387	0,320
R3	NO. 2	1	3	2076	0,4030E+02	0,2039E-02			52,178	0,848
R3	NO. 3	18	18	3822	0,9008E+02	0,3104E-03			25,024	0,683
R3	NO. 4	18	12	5370	0,2000E+04	-0,3002E-03			10,340	0,211
R3	NO. 5	18	11	4650	0,2936E+03	0,1272E-03			20,333	0,848

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSDO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	114	42078	0,3038E+03	0,5079E-05			6,413	0,680
R1	NO, 2	4	259	46860	0,7469E+02	0,2034E-04			8,512	0,105
R1	NO, 3	4	240	47899	0,7313E+02	0,2723E-04			18,118	0,205
R1	NO, 4	4	193	46798	0,8900E+02	0,2165E-04			8,683	0,173
R1	NO, 5	5	10	407	0,3352E+02	0,4321E-03			20,848	1,133
R1	NO, 6	5	40	2663	0,6077E+02	-0,4914E-05			16,739	1,039
R1	NO, 7	5	26	1373	0,3609E+03	-0,1457E-02			12,011	0,167
R1	NO, 8	5	42	7124	0,4664E+02	0,2045E-03			11,478	0,082
R1	NO, 9	5	45	3032	0,4265E+02	0,1340E-03			11,675	0,672
R1	NO,10	5	4	161	0,1947E+02	0,4540E-02			2,332	0,012
R1	NO,11	5	26	2767	0,5333E+02	0,2991E-03			15,866	0,375
R1	NO,12	4	147	35400	0,2276E+03	-0,7561E-05			12,840	0,851
R1	NO,13	4	302	42618	0,7168E+02	0,1133E-04			11,379	0,850
R1	NO,14	4	283	32800	0,4807E+02	0,3145E-04			12,962	0,141
R1	NO,15	4	173	24920	0,7726E+02	0,2460E-04			12,553	0,558
R1	NO,16	4	251	33680	0,8217E+02	0,1189E-04			9,887	0,686
R1	NO,17	4	149	18240	0,5056E+02	0,4772E-04			8,329	0,132
R1	NO,18	4	142	41798	0,1823E+03	0,1758E-04			17,936	0,422
R1	NO,19	4	160	31440	0,1285E+03	0,2048E-04			11,668	0,210
R1	NO,20	4	625	46834	0,5400E+02	0,1389E-04			8,629	0,348

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
MICROWAVE
IN-MOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	33	1122	0,2006E+02	0,6740E-03		18,811	0,636

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0,6449E+02	0,1779E-03		18,040	0,192
R1	NO. 2	11	17	4382	0,5585E+02	0,4447E-03		17,152	0,250
R1	NO. 3	12	30	18304	0,2727E+03	0,3848E-04		13,925	0,620
139 R1	NO. 4	12	7	9165	0,7098E+02	0,3351E-03		22,678	0,026
R1	NO. 5	12	4	714	0,2386E+02	0,3833E-02		40,316	0,589
R1	NO. 6	11	49	9663	0,1187E+03	0,5641E-04		18,608	0,613
R1	NO. 7	11	117	10809	0,1071E+03	-0,1929E-04		6,991	0,820
R1	NO. 8	12	33	24804	0,6905E+03	-0,2694E-03		14,593	1,031
R1	NO. 9	11	177	7849	0,9964E+01	0,2275E-03		7,917	0,080

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,2671E+03	0,9704E-04			7,198	0,064
R2	NO, 2	8	7	8246	0,2996E+03	0,1704E-03			7,978	0,031
R2	NO, 3	8	16	7570	0,2060E+03	0,1137E-03			4,527	0,033
R2	NO, 4	8	11	9425	0,6695E+03	0,3810E-04			5,989	0,315
R2	NO, 5	8	15	45376	0,5412E+03	0,4704E-04			12,869	0,081
R2	NO, 6	8	4	22037	0,1414E+04	0,6187E-04			4,258	0,006
R2	NO, 7	8	9	45059	0,9012E+03	0,4867E-04			19,680	0,936
R2	NO, 8	8	17	8979	0,1217E+04	-,9588E-04			10,178	0,341
R2	NO, 9	8	18	11916	0,5000E+03	0,2169E-04			2,747	0,146
R2	NO,10	8	11	17219	0,1454E+04	0,1110E+05			0,602	0,802
R2	NO,11	8	3	2237	0,2586E+04	-,8717E-03			4,751	0,086
140 R2	NO,12	8	4	2247	0,3275E+03	0,2738E-03			8,737	0,307
R2	NO,13	8	3	2332	0,3305E+03	0,4026E-03			10,959	0,328
R2	NO,14	8	3	1980	0,3417E+03	0,3223E-03			5,152	0,087
R2	NO,15	8	3	631	0,5943E+03	-,1698E-02			4,397	0,092
R2	NO,16	8	4	3492	0,9787E+03	-,3155E-04			0,947	0,197
R2	NO,17	8	11	4096	0,4377E+03	-,2965E-04			2,255	0,407
R2	NO,18	8	14	44314	0,8970E+03	0,3907E-04			42,226	0,924
R2	NO,19	8	9	45376	0,9738E+03	0,4620E-04			20,750	0,269
R2	NO,20	8	6	33328	0,2129E+04	-,1951E-04			17,894	1,158

TABLE 4.3 (Cont'd)
 SIMPLE EXPONENTIAL
 AIRBORNE
 SYSTEM - INFRARED
 FIELD
 (CONTINUED)

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RB/R	RE
R2	NO, 21	8	3	45221	0,1099E+04	0,6754E-04		59,142	1,060
R2	NO, 22	8	16	45477	0,2986E+03	0,6672E-04		59,368	0,745
R2	NO, 23	8	10	45261	0,1911E+04	0,2382E-04		29,312	1,150

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD

		SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	17	5	3784	0.8625E+02	0.6900E-03			44.178	0.65
R3	NO. 2	2	12	6336	0.1888E+03	0.1735E-03			10.635	0.10
R3	NO. 3	2	8	4576	0.9665E+02	0.5297E-03			38.635	0.38

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SVSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
122	R2	NO. 1	8	105	0.4154E+01	0.8101E-03			9.774	0.15
	R2	NO. 2	8	100	0.3829E+01	0.6295E-03			13.815	0.10
	R2	NO. 3	8	50	0.1428E+02	0.5814E-03			15.405	0.14
	R2	NO. 4	8	33	0.1239E+02	0.6798E-03			41.393	0.27
	R2	NO. 5	8	16	0.6973E+02	0.3501E-03			12.890	0.18

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	7	17	2193	0,2753E+02	0,9102E-03			23,283	0,450
R3	NO. 2	7	32	2248	0,3935E+02	0,3193E-03			25,207	0,727
R3	NO. 3	7	12	3322	0,3763E+03	-,1058E-03			27,377	1,058
R3	NO. 4	2	384	3415	0,4608E+01	0,1361E-03			4,537	0,180
R3	NO. 5	2	211	4536	0,3357E+02	-,2246E-03			18,708	0,473
R3	NO. 6	1	6	4659	0,4168E+04	-,2292E-02			5,746	0,023
R3	NO. 7	1	21	6144	0,2290E+03	-,1077E-04			13,414	1,045

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
FIELD

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0,1164E+03	0,1097E-03			13,641	0,115
R1	NO. 2	11	33	5703	0,1753E+02	0,5031E-03			31,172	0,414
R1	NO. 3	12	16	9165	0,9802E+02	0,2564E-03			57,393	0,579
R1	NO. 4	15	19	11800	0,4477E+03	-,2256E-04			10,355	0,918
R1	NO. 5	12	35	18304	0,1104E+03	0,1139E-03			32,786	0,544
R1	NO. 6	16	5	2513	0,1568E+03	0,6219E-03			26,812	1,000
R1	NO. 7	15	9	11209	0,5164E+03	0,0365E-04			5,461	0,051
R1	NO. 8	15	7	18642	0,4567E+04	-,2597E-04			11,253	0,793
R1	NO. 9	15	9	16192	0,1761E+04	-,2602E-04			15,873	0,071
R1	NO. 10	15	19	23495	0,6790E+03	0,3564E-04			15,840	0,481
R1	NO. 11	15	10	15741	0,6430E+03	0,1807E-04			10,405	0,950
R1	NO. 12	15	17	23572	0,9297E+03	0,2119E-04			5,037	0,165
R1	NO. 13	15	20	15756	0,8137E+03	-,7763E-05			11,819	0,965
R1	NO. 14	15	16	13960	0,7656E+03	-,7863E-06			4,391	1,070
R1	NO. 15	15	34	23680	0,3903E+03	0,3040E-04			6,050	0,150
R1	NO. 16	11	35	10323	0,1623E+03	0,5768E-04			3,844	0,054
R1	NO. 17	12	41	24804	0,4650E+03	0,1688E-04			20,205	0,995
R1	NO. 18	11	36	9833	0,4697E+03	-,4277E-04			11,062	0,689
R1	NO. 19	11	35	12141	0,1224E+03	0,1032E-03			11,081	0,125

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
FIELD

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3965	0,3470E+02	0,7167E+03			114,149	0,382
R3	NO, 2	2	16	4576	0,3749E+02	0,6120E+03			36,365	0,846
R3	NO, 3	2	9	6336	0,8553E+03	0,5535E+04			8,645	0,611

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	46	4467	0,2907E+02	0,3679E+03			16,455	0,176
R1	NO, 2	14	12	2043	0,1282E+02	0,1716E+02			135,839	1,366
R1	NO, 3	14	43	11189	0,4780E+03	0,4864E+04			11,092	0,497
R1	NO, 4	14	45	10666	0,4242E+03	0,4627E+04			8,750	0,406
R1	NO, 5	14	9	2792	0,1717E+03	0,1809E+03			2,346	0,047

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SY8NO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,6584E+02	0,2087E+03			12,582	1,000

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	9	10	1726	0,1748E+01	0,3039E-02			66,764	0,727
R3	NO. 3	9	23	2261	0,1431E+02	0,9096E-03			6,670	0,037
R3	NO. 3	9	24	2370	0,2155E+02	0,7536E-03			10,254	0,156
R3	NO. 4	9	3	3105	0,7393E+02	-0,3286E-02			12,368	1,424
R3	NO. 5	2	74	3415	0,1829E+02	0,2634E-03			2,763	0,016
R3	NO. 6	2	67	4536	0,2197E+02	0,2348E-03			11,643	0,221
R3	NO. 7	1	5	8513	0,7830E+04	-0,3266E-03			18,899	0,485
R3	NO. 8	1	8	6339	0,1052E+04	0,6972E-04			17,440	1,336

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RRAR	RE
R1	NO. 1	4	14	35400	0.1889E+04	-.1032E+05			27.667	1.107
R1	NO. 2	4	25	46840	0.1151E+04	0.7833E+05			26.675	1.017
R1	NO. 3	4	11	51440	0.4780E+04	-.1897E+05			6.318	1.001
R1	NO. 4	4	11	41798	0.5960E+03	-.6089E+04			14.797	0.230
R1	NO. 5	4	16	33680	0.2562E+04	-.2495E+04			11.194	0.465
R1	NO. 6	4	16	24920	0.1110E+04	0.2350E+04			23.367	0.960
R1	NO. 7	4	16	32800	0.8675E+03	0.3347E+04			17.283	0.295
R1	NO. 8	4	95	42000	0.2127E+03	0.8540E+04			26.249	0.737
R1	NO. 9	4	4	46800	0.2510E+04	0.3503E+04			14.129	0.201
R1	NO. 10	4	36	47900	0.1067E+05	-.4437E+04			15.747	0.249
R1	NO. 11	4	23	46860	0.1520E+04	0.2330E+05			16.451	1.065
R1	NO. 12	4	3	42080	0.4215E+04	0.3049E+04			13.323	1.012

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SIMPLE EXPONENTIAL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RRAR	RE
R3	NO. 1	2	20	3415	0.1250E+03	0.2025E+04			7.464	1.007
R3	NO. 2	2	10	4536	0.1271E+03	0.4087E+03			37.318	1.330

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM - RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	24	2517	0,2342E+02	0,7941E-03			29,870	0,606
R1	NO, 2	11	178	6751	0,1622E+02	0,1478E-03			14,676	0,187
R1	NO, 3	12	170	24804	0,1468E+03	-0,3126E-05			9,517	0,979
R1	NO, 4	11	244	7849	0,9377E+01	0,1824E-03			7,130	0,062
R1	NO, 5	11	114	4382	0,5227E+01	0,5711E-03			16,360	0,120
R1	NO, 6	12	148	18304	0,6005E+02	0,4184E-04			8,802	0,218
R1	NO, 7	12	57	9165	0,3820E+02	0,2015E-03			22,660	0,315
R1	NO, 8	11	200	7574	0,1599E+02	0,1242E-03			7,951	0,100

SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM - RADAR
IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	14	2076	0,4413E+02	0,8193E-03			26,479	0,639
R3	NO, 2	1	53	5085	0,4378E+02	0,1900E-03			30,034	0,658

SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM - MICROWAVE
IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	34	1122	0,1858E+02	0,7184E-03			17,849	0,582

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM - MICROWAVE
FIELD

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,2017E+02	0,5234E-03			20,852	1,067
R1	NO, 2	5	54	3031	0,2793E+02	0,2391E-03			6,618	0,111
R1	NO, 3	5	32	1373	0,8364E+02	-0,3743E-03			24,281	0,789
R1	NO, 4	5	48	7124	0,3829E+02	0,2171E-03			12,902	0,110
R1	NO, 5	5	44	2662	0,6059E+02	-0,5071E-04			18,860	0,985
R1	NO, 6	4	135	42076	0,2574E+03	0,5878E-05			6,045	0,493
R1	NO, 7	4	323	46856	0,6792E+02	0,1671E-04			8,484	0,201
R1	NO, 8	4	299	47896	0,7278E+02	0,2248E-04			17,406	0,277
R1	NO, 9	4	201	46798	0,8461E+02	0,2037E-04			9,101	0,214
R1	NO, 10	5	5	161	0,1977E+02	0,2673E-02			5,396	0,218
R1	NO, 11	5	29	2767	0,5220E+02	0,2422E-03			15,053	0,436
149	R1	NO, 12	4	183	35400	0,1988E+03	-0,1042E-04		15,573	0,805
	R1	NO, 13	4	477	42618	0,4669E+02	0,1305E-04		6,245	0,351
	R1	NO, 14	4	360	32800	0,3892E+02	0,3130E-04		13,481	0,143
	R1	NO, 15	4	203	24926	0,7155E+02	0,2076E-04		11,031	0,626
	R1	NO, 16	4	302	33680	0,7733E+02	0,7627E-05		9,556	0,892
	R1	NO, 17	4	181	41794	0,1451E+03	0,1775E-04		19,099	0,442
	R1	NO, 18	4	184	51440	0,1303E+03	0,1698E-04		11,301	0,257
	R1	NO, 19	4	546	46840	0,4716E+02	0,1215E-04		9,601	0,513
	R1	NO, 20	4	184	18240	0,4334E+02	0,4258E-04		10,268	0,218

TABLE 4.4
DUANE MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	25	6	1544	0,2174E+01	0,6946E+03	0,8818E+00	0,1023E+00	39,107	1,543
R2	NO. 2	27	29	1400	0,7470E+00	0,1941E+02	0,5826E+00	0,4037E+01	13,459	0,171
R2	NO. 3	27	8	400	0,6583E+00	0,1699E+02	0,3833E+00	0,9155E+01	32,080	2,248
R2	NO. 4	27	21	1200	0,5372E+00	0,4150E+01	0,3936E+00	0,1144E+00	23,559	0,304
R2	NO. 5	27	52	6000	0,6237E+00	0,1063E+02	0,5048E+00	0,6239E+00	24,760	0,506

DUANE MODEL
AIRBORNE
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
150 R2	NO. 1	27	162	4988	0,6964E+00	0,3350E+01	0,6231E+00	0,4763E+00	15,003	0,459
R2	NO. 2	27	43	1000	0,4867E+00	0,4400E+00	0,3841E+00	0,4577E+00	25,172	0,147
R2	NO. 3	25	382	2176	0,4967E+00	0,1377E+01	0,4631E+00	0,2343E+01	16,945	0,145
R2	NO. 4	25	315	3984	0,9724E+00	0,1074E+02	0,8999E+00	0,2896E+01	18,804	1,133
R2	NO. 5	27	27	400	0,5994E+00	0,1637E+01	0,4377E+00	0,4094E+00	25,533	0,987
R2	NO. 6	27	42	1300	0,4727E+00	0,4788E+00	0,3719E+00	0,4720E+00	25,418	0,136

TABLE 4.4 (Cont'd)
DUANE MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	13	1100	0,8415E+00	0,5219E+02	0,5069E+00	0,1218E+00	19,834	2,240
R2	NO. 2	27	6	400	0,8102E+00	0,3072E+02	0,3946E+00	0,6752E-01	29,073	1,213
R2	NO. 3	25	50	3992	0,7205E+00	0,1750E+02	0,5933E+00	0,6704E+00	28,468	4,423
R2	NO. 4	27	13	800	0,7219E+00	0,2291E+02	0,4348E+00	0,5084E-01	20,727	0,333
R2	NO. 5	27	63	4996	0,8261E+00	0,3315E+02	0,6838E+00	0,1525E+00	10,283	0,446
R2	NO. 6	25	11	1200	0,6506E+00	0,3009E+02	0,3680E+00	0,6256E-01	24,523	0,160

DUANE MODEL
AIRBORNE
COMPUTER
IN-HOUSE

ISI		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	536	0,9185E+00	0,9294E+02	0,4472E+00	0,7170E-01	53,123	3,680
R1	NO. 2	23	3	785	0,6816E+00	0,1566E+03	0,2504E+00	0,9462E-01	65,848	841,714
R1	NO. 3	23	3	521	0,1362E+01	0,2326E+03	0,5006E+00	0,1179E+00	73,785	52,324
R1	NO. 4	21	9	500	0,6268E+00	0,1502E+02	0,3244E+00	0,1376E+00	28,574	0,376
R1	NO. 5	21	10	760	0,4134E+00	0,2898E+01	0,2573E+00	0,9430E-01	30,304	0,163

TABLE 4.4 (Cont'd)
DUANE MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	26	3	407	0,6742E+00	0,7978E+02	0,2477E+00	0,1492E+00	68,149	4,944
R2	NO. 2	27	77	3994	0,9333E+00	0,3805E+02	0,7886E+00	0,2648E+00	35,878	0,603
R2	NO. 3	27	12	400	0,9625E+00	0,3026E+02	0,5633E+00	0,5074E-01	20,227	0,059
R2	NO. 4	27	27	1400	0,8499E+00	0,2897E+02	0,6206E+00	0,2787E-01	12,381	0,408
R2	NO. 5	27	14	800	0,7650E+00	0,2541E+02	0,4725E+00	0,4269E-01	17,752	0,431

DUANE MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	3	500	0,6427E+00	0,9050E+02	0,2362E+00	0,8508E-01	82,228	0,700
R1	NO. 2	21	7	760	0,5091E+00	0,1663E+02	0,2834E+00	0,4156E-01	35,060	0,070

DUANE MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	7	782	0,5524E+00	0,2309E+02	0,3075E+00	0,4362E-01	32,258	0,370
R3	NO. 2	20	11	767	0,5561E+00	0,1029E+02	0,3550E+00	0,1023E+00	25,462	0,160

TABLE 4.4 (Cont'd)
AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE	
R1	NO. 1	21	10	760	0.6074E+00	0.1716E+02	0.3780E+00	0.8561E+01	30,116	0,196

DUANE MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE	
R3	NO. 1	20	4	767	0.3481E+00	0.1429E+02	0.1519E+00	0.1246E+00	55,885	0,027
R3	NO. 2	20	6	782	0.4320E+00	0.1236E+02	0.2271E+00	0.1893E+00	51,248	5,729

DUANE MODEL
AIRBORNE
LASER XMT R / RCVR
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE	
R1	NO. 1	21	17	760	0.5400E+00	0.4001E+01	0.3804E+00	0.8844E+01	22,964	0,368
R1	NO. 2	21	10	500	0.6601E+00	0.1528E+02	0.4108E+00	0.7190E+01	31,184	0,219

TABLE 4.4 (Cont'd)
DUANE MODEL
AIRBORNE
LASER XMT R / RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	14	782	0,5255E+00	0,5155E+01	0,3555E+00	0,2034E+00	27,630	0,240
R3	NO, 2	20	15	767	0,4692E+00	0,2388E+01	0,3222E+00	0,8878E-01	20,634	0,05

DUANE MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	711	0,2546E+01	0,3778E+03	0,1239E+01	0,1719E+00	45,637	1,08
R1	NO, 2	23	5	785	0,1397E+01	0,2481E+03	0,4879E+00	0,1357E+00	44,329	9,62
R1	NO, 3	23	8	536	0,2087E+01	0,1979E+03	0,1017E+01	0,4789E-01	38,648	2,87

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DUANE MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	65	2500	0,5206E+00	0,8233E+00	0,4397E+00	0,1615E+00	13,259	0,02

TABLE 140 (Cont'd)
A I R B O R N E
S Y S T E M - R A D A R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	103	798	0.5368E+00	0.1420E+00	0.4653E+00	0.5025E+00	18.988	0.125
R2	NO. 2	27	127	1097	0.6152E+00	0.4173E+00	0.5418E+00	0.3751E+00	14.589	0.141
R2	NO. 3	27	65	399	0.5483E+00	0.1972E+00	0.4554E+00	0.6722E+00	23.697	0.422
R2	NO. 4	25	347	1192	0.6152E+00	0.8851E-01	0.5716E+00	0.3981E+00	10.174	0.060
R2	NO. 5	27	316	2500	0.6990E+00	0.6639E+00	0.6470E+00	0.1458E+00	6.482	0.030
R2	NO. 6	25	371	3981	0.9267E+00	0.6721E+01	0.8632E+00	0.3756E+01	20.566	1.295

D U A N E M O D E L
A I R B O R N E
S Y S T E M - L A S E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	27	760	0.4521E+00	0.5183E+00	0.3448E+00	0.6238E-01	18.207	0.025
R1	NO. 2	21	19	500	0.6286E+00	0.4621E+01	0.4242E+00	0.5857E-01	14.391	0.115

D U A N E M O D E L
A I R B O R N E
S Y S T E M - L A S E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	17	767	0.5269E+00	0.3544E+01	0.3712E+00	0.6920E-01	20.557	0.048
R3	NO. 2	20	17	782	0.5151E+00	0.3196E+01	0.3629E+00	0.2094E+00	27.446	0.184

TABLE 4.4 (Cont'd)
 DUANE MODEL
 AIRBORNE
 SYSTEM - INFRARED
 IN-HOUSE

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAH	WE
R1	NO. 1	23	17	536	0.1269E+01	0.5746E+02	0.8312E+00	0.2330E+00	30.776	0.844
R1	NO. 2	23	11	785	0.8859E+00	0.5240E+02	0.5012E+00	0.2671E+00	30.826	2.159
R1	NO. 3	23	5	521	0.1668E+01	0.1985E+03	0.4823E+00	0.7820E-01	59.181	27.805
R1	NO. 4	23	9	711	0.2088E+01	0.2483E+03	0.1081E+01	0.4844E-01	36.773	11.888

TABLE 4.4 (Cont'd)
DUANE MODEL
AIRBORNE
SYSTEM - INFRARED
FIELD

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	24	3	227	0,1523E+01	0,1103E+03	0,5596E+00	0,1190E+00	65,395	26,268
R3	NO, 2	24	3	344	0,8545E+00	0,9511E+02	0,3140E+00	0,8733E-01	70,232	6,582
R3	NO, 3	24	3	789	0,5173E+00	0,9437E+02	0,1901E+00	0,1034E+00	72,626	1,277
R3	NO, 4	24	4	411	0,1319E+01	0,1437E+03	0,5759E+00	0,8041E-01	54,768	45,863
R3	NO, 5	24	3	433	0,1598E+01	0,2178E+03	0,5873E+00	0,1097E+00	65,903	71,869
R3	NO, 6	24	3	472	0,9026E+00	0,1397E+03	0,3316E+00	0,1025E+00	67,747	13,316
R3	NO, 7	24	8	1056	0,6122E+00	0,3537E+02	0,3565E+00	0,3973E-01	30,321	0,159
R3	NO, 8	24	3	324	0,1398E+01	0,1476E+03	0,5136E+00	0,1042E+00	68,533	8,528
R3	NO, 9	24	3	440	0,4901E+00	0,4677E+02	0,1801E+00	0,1594E+00	69,681	1,089
R3	NO, 10	24	4	519	0,9761E+00	0,1254E+03	0,4261E+00	0,1948E+00	164,596	1,392
R3	NO, 11	24	4	349	0,8459E+00	0,6777E+02	0,3692E+00	0,4889E-01	74,719	0,924
157 R3	NO, 12	24	3	255	0,1660E+01	0,1315E+03	0,6098E+00	0,8978E-01	66,832	16,040
R3	NO, 13	24	3	390	0,8599E+00	0,1087E+03	0,3159E+00	0,1318E+00	69,109	18,376
R3	NO, 14	24	4	563	0,1010E+01	0,1427E+03	0,4409E+00	0,5619E-01	57,527	5,814
R3	NO, 15	24	3	307	0,4456E+00	0,2609E+02	0,1637E+00	0,1676E+00	69,345	2,698
R3	NO, 16	24	3	345	0,8151E+00	0,8963E+02	0,2995E+00	0,1224E+00	76,033	6,540
R3	NO, 17	24	3	705	0,1278E+01	0,2984E+03	0,4694E+00	0,1345E+00	70,116	7,61
R3	NO, 18	24	4	448	0,5889E+00	0,4255E+02	0,2570E+00	0,5886E-01	68,016	0,13
R3	NO, 19	24	4	529	0,9255E+00	0,1183E+03	0,4040E+00	0,4556E-01	54,890	5,32
R3	NO, 20	24	4	354	0,1170E+01	0,1083E+03	0,5108E+00	0,1065E+00	53,246	22,89

TABLE 4.4 (Cont'd)
DUANE MODEL
AIRBORNE
SYSTEM - INFRARED
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 21	24	4	71	0,7329E+00	0,1012E+03	0,3199E+00	0,1465E+00	54,898	1,53
R3	NO, 22	24	3	314	0,6311E+00	0,5506E+02	0,2319E+00	0,9101E+01	64,774	10,47
R3	NO, 23	24	4	378	0,1569E+01	0,1563E+03	0,6850E+00	0,6324E+01	53,286	36,35
R3	NO, 24	24	4	385	0,6000E+00	0,3819E+02	0,2619E+00	0,5961E+01	57,160	0,34
R3	NO, 25	24	3	477	0,8239E+00	0,1257E+03	0,3027E+00	0,8507E+01	83,072	2,09
R3	NO, 26	24	3	393	0,5328E+00	0,5000E+02	0,1958E+00	0,1656E+00	74,420	0,33

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DUANE MODEL
AIRBORNE
SYSTEM - VISUAL SCAN
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,6521E+00	0,4383E+01	0,4828E+00	0,2534E+00	13,456	0,26
R2	NO, 2	22	41	549	0,8310E+00	0,6293E+01	0,6514E+00	0,6209E+01	13,468	0,32

TABLE 4.4 Cont'd
IBM MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	25	6	1584	0,3490E-02	0,5960E-07	0,1000E+00		19,773	1,56
R2	NO. 2	27	29	1400	0,2217E-01	0,1805E+01	0,7785E-07		45,885	1,72
R2	NO. 3	27	8	400	0,3324E-01	0,5831E+01	0,3543E-06		37,196	2,43
R2	NO. 4	27	21	1200	0,1037E-01	0,1117E+02	0,7259E-02		4,228	0,01

IBM MODEL
AIRBORNE
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	162	4988	0,4002E-01	0,4823E+03	0,5960E-07		35,725	2,01
R2	NO. 2	27	43	1000	0,1114E-01	0,3135E+02	0,7735E-02		4,096	0,00
R2	NO. 3	25	382	2176	0,9423E-01	0,2130E+03	0,3465E-02		7,587	0,00
159 R2	NO. 4	25	315	3984	0,9246E-01	0,5960E-07	0,5324E+00		14,787	1,23
R2	NO. 5	27	27	400	0,3725E-08	0,2974E+02	0,7383E-02		6,949	0,08
R2	NO. 6	27	42	1300	0,8150E-02	0,3102E+02	0,6248E-02		3,478	0,00

TABLE 4.4 (Cont'd)
IBM MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 2	27	8	400	0,1792E-01	0,1589E+01	0,3562E+01		16,641	0,50
R2	NO. 4	27	13	800	0,1424E-01	0,2364E+01	0,3472E+01		17,481	0,26
R2	NO. 5	27	63	4996	0,1456E-01	0,2111E+01	0,5960E-07		17,045	1,39
R2	NO. 6	25	11	1200	0,1145E-01	0,1293E+00	0,2244E-04		100,652	2,02

IBM MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	536	0,1610E-01	0,8690E-01	0,5215E-07		11,259	1,60
R1	NO. 4	21	9	500	0,2328E-09	0,8908E+01	0,8072E-02		8,040	0,02
R1	NO. 5	21	10	760	0,2369E-01	0,1410E+00	0,6153E-07		272,903	3,23

TABLE 4.4 (Cont'd)
IBM MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 2	27	77	3994	0,1876E-01	0,5960E-07	0,8217E+03		49,281	1,0
R2	NO, 3	27	12	400	0,2953E-01	0,1086E+01	0,1682E+01		11,209	2,1
R2	NO, 4	27	27	1-00	0,2064E-01	0,1134E+00	0,1543E-05		28,854	1,8
R2	NO, 5	27	14	600	0,2083E-01	0,1257E+00	0,4248E-05		43,886	2,1

IBM MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	21	7	760	0,250E-01	0,1245E+00	0,6882E-07		286,445	2,5

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IBM MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,1452E-01	0,1788E-06	0,1923E-06		138,997	2,4
R3	NO, 2	20	11	767	0,1408E-02	0,9548E+01	0,6661E-02		20,508	0,0

TABLE 4.4 (Cont'd)

IBM MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO, 1	21	10	760	0,1865E-01	0,2279E+01	0,1155E-06		126,718	1,6

IBM MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO, 1	20	4	767	0,6131E-02	0,4602E+00	0,7221E+01		157,302	0,3
R3 NO, 2	20	6	782	0,3235E-01	0,5087E+00	0,2901E-06		34,014	1,6

IBM MODEL
AIRBORNE
LASER XMT R / RCVR
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1 NO, 1	21	17	760	0,3010E-01	0,2615E+00	0,2008E-05		193,259	1,8
R1 NO, 2	21	10	500	0,2273E-01	0,1272E+01	0,2729E+00		7,943	0,0

IBM MODEL
AIRBORNE
LASER XMT R / RCVR
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO, 1	20	14	782	0,2643E-01	0,5087E-02	0,1039E-02		123,885	2,8
R3 NO, 2	20	15	767	0,2393E-01	0,2540E+00	0,2248E-04		352,388	2,8

TABLE 4.4 (Cont'd)

IBM MODEL

AIRBORNE

INFRARED RECEIVER

IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	711	0,6417E-02	0,5960E-07	0,1000E+00		27,413	1,66
R1	NO. 2	23	5	785	0,6618E-02	0,1753E+00	0,1000E+00		16,927	1,62
R1	NO. 3	23	8	536	0,1294E-01	0,5960E-07	0,1000E+00		15,434	1,40

IBM MODEL

AIRBORNE

INFRARED RECEIVER

IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	65	2500	0,2297E-01	0,1743E+02	0,1525E-01		4,700	0,00

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IBM MODEL

AIRBORNE

SYSTEM-RADAR

IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	103	798	0,6225E-01	0,5570E+02	0,1016E-01		3,555	0,00
R2	NO. 2	27	127	1097	0,4964E-01	0,7079E+02	0,4715E-02		1,947	0,00
R2	NO. 3	27	65	399	0,2513E+00	0,1397E+02	0,3015E-06		66,764	2,51
R2	NO. 4	25	347	1192	0,1930E+00	0,1260E+03	0,6601E-02		2,374	0,00
R2	NO. 5	27	316	2500	0,1196E+00	0,4061E+02	0,1239E-01		3,820	0,01
R2	NO. 6	25	371	3981	0,1131E+00	0,5960E-07	0,4664E+00		14,162	1,16

TABLE 4.4 (Cont'd)
IBM MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	27	760	0,5114E-01	0,3343E+00	0,1988E-04		312,782	2,23
R1	NO. 2	21	19	500	0,4936E-01	0,2822E+01	0,2470E-06		84,117	2,11

IBM MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	17	767	0,2419E-01	0,5602E-01	0,2013E-06		306,990	2,44
R3	NO. 2	20	17	782	0,3132E-01	0,3286E-01	0,2814E-06		132,819	2,84

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IBM MODEL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	17	536	0,3305E-01	0,5960E-07	0,1000E+00		20,105	1,14

TABLE 4.4 (Cont'd)
 IBM MODEL
 AIRBORNE
 SYSTEM - INFRARED
 FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 4	24	4	411	0,9204E-02	0,4406E+00	0,4496E+00		11,352	2,101
R3	NO. 7	24	8	1056	0,9611E-02	0,1550E+01	0,2881E+06		143,409	2,367
R3	NO,10	24	4	519	0,7345E-02	0,5960E-07	0,4670E+00		188,242	1,704
R3	NO,11	24	4	349	0,8772E-02	0,1000E+01	0,1352E+00		2,230	0,008
R3	NO,14	24	4	563	0,7177E-02	0,5803E+00	0,2018E+01		7,078	0,246
R3	NO,18	24	4	448	0,4742E-02	0,1800E+01	0,2064E+01		6,883	0,026
R3	NO,19	24	4	529	0,8250E-02	0,5818E+00	0,6742E+00		3,055	0,041
R3	NO,20	24	4	354	0,1414E-01	0,6687E+02	0,6240E-07		13,665	1,561
R3	NO,21	24	4	671	0,7870E-02	0,4081E+00	0,3530E+06		83,685	3,319
R3	NO,23	24	4	378	0,1183E-01	0,5960E-07	0,1079E+03		14,755	1,972
R3	NO,24	24	4	385	0,1371E-01	0,1168E+03	0,6029E-07		226,571	3,187

IBM MODEL
 AIRBORNE
 SYSTEM - VISUAL SCAN
 IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	22	29	766	0,5310E-01	0,2119E+00	0,4723E-06		56,109	1,546
R2	NO. 2	22	41	549	0,7862E-01	0,1683E+00	0,1502E-04		32,674	1,722

TABLE 4.4 (Cont'd)
EXPONENTIAL MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	25	6	1584	0,3545E+03	0,1000E+00	0,1000E+00		30,502	1,25
R2	NO. 2	27	29	1400	0,5143E+02	0,7181E+00	0,1733E-02		5,938	0,03
R2	NO. 4	27	21	1200	0,1931E+03	0,9409E+00	0,2190E-03		4,661	0,01
R2	NO. 5	27	52	6000	0,7429E+02	0,9053E+00	0,3421E-02		19,038	0,31

EXPONENTIAL MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	13	1100	0,5938E+02	0,3725E+00	0,3812E-01		11,897	1,09
991 R2	NO. 3	25	50	3992	0,5130E+02	0,1000E+00	0,1535E+02		12,719	1,02
R2	NO. 4	27	13	800	0,3944E+03	0,9482E+00	0,1505E-03		5,029	0,02
R2	NO. 5	27	63	4996	0,6544E+02	0,6572E+00	0,3371E-02		8,408	0,30
R2	NO. 6	25	11	1200	0,1181E+03	0,8580E+00	0,1591E-02		10,359	0,05

TABLE 4.4 (Cont'd)
EXPONENTIAL MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 2	27	77	3994	0,5413E+02	0,9595E+00	0,4524E-02		6,828	0,064
R2	NO. 3	27	12	400	0,2675E+02	0,5960E-07	0,5708E-01		8,851	1,103
R2	NO. 4	27	27	1400	0,4026E+02	0,1118E-07	0,5219E-01		21,264	1,041
R2	NO. 5	27	14	800	0,1742E+03	0,8715E+00	0,3244E-03		2,730	0,011

EXPONENTIAL MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 2	21	7	760	0,1192E+03	0,9534E+00	0,2269E-02		8,370	0,008

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EXPONENTIAL MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	7	762	0,1192E+03	0,8929E+00	0,1859E-02		15,625	0,05
R3	NO. 2	20	11	767	0,7755E+03	0,9846E+00	0,1051E-03		18,069	0,03

TABLE 4.4 (Cont'd)
EXPONENTIAL MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	10	760	0,5842E+02	0,9295E+00	0,6325E+02	12,028	0,08

EXPONENTIAL MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	4	767	0,6993E+03	0,9950E+00	0,4037E+03	7,486	0,0
R3	NO. 2	20	6	782	0,2633E+02	0,8240E+02	0,4077E+02	24,448	1,25

EXPONENTIAL MODEL
AIRBORNE
LASER XMT R / RCVR
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 2	20	15	767	0,1152E+03	0,9640E+00	0,7464E+03	15,090	0,01

EXPONENTIAL MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	711	0,2008E+03	0,1000E+00	0,1000E+00	39,031	1,33

TABLE 4.4 (Cont'd)
EXPONENTIAL MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R2	NO, 1	27	65	2500	0.3358E+02	0.9083E+00	0.1203E+02	5.869	0.

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R2	NO, 5	27	316	2500	0.6481E+01	0.7392E+00	0.1716E+02	10.534	0.
R2	NO, 6	25	371	3981	0.9695E+01	0.1735E+03	0.7893E+02	16.225	1.

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R1	NO, 1	21	27	760	0.2802E+02	0.9524E+00	0.2608E+02	7.130	0.
R1	NO, 2	21	19	500	0.3064E+02	0.8225E+00	0.2798E+02	8.299	0.

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R3	NO, 1	20	17	767	0.6773E+02	0.9487E+00	0.1525E+02	12.151	0

TABLE 4.4 (Cont'd)
EXPONENTIAL MODEL
AIRBORNE
SYSTEM - INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	17	536	0,3700E+02	0,3135E+02	0,3678E+01		32,100	1,0
R1	NO, 2	23	11	785	0,5264E+02	0,1000E+00	0,1469E+03		18,657	1,1

EXPONENTIAL MODEL
AIRBORNE
SYSTEM - INFRARED
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 7	24	8	1056	0,1554E+03	0,9047E+00	0,1465E+02		6,498	0,0
R3	NO,10	24	4	519	0,1457E+03	0,2647E+01	0,6456E+01		12,197	0,2
R3	NO,11	24	4	349	0,9001E+02	0,9466E+00	0,8264E+02		2,093	0,0
R3	NO,14	24	4	563	0,1260E+03	0,7642E+00	0,6222E+02		6,700	0,2
R3	NO,18	24	4	448	0,1151E+03	0,1009E+01	0,6347E+02		18,597	0,0
R3	NO,19	24	4	529	0,1072E+03	0,7952E+00	0,7862E+02		2,657	0,0
R3	NO,20	24	4	354	0,7000E+02	0,4751E+02	0,1000E+00		11,610	1,4
R3	NO,23	24	4	378	0,9100E+02	0,1000E+00	0,3724E+03		12,055	1,5
R3	NO,24	24	4	385	0,1277E+03	0,9445E+00	0,3031E+02		7,381	0,0

EXPONENTIAL MODEL
AIRBORNE
SYSTEM - VISUAL SCAN
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,1814E+02	0,8196E+00	0,1072E+01		7,958	0,0
R2	NO, 2	22	41	549	0,1814E+02	0,6394E+00	0,1668E+02		9,610	0,0

TABLE 4.4 (Cont'd)
LLOYD - LIPON MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	-0.4012E+02	-0.3772E+06			20,559	0,32
R2	NO, 2	27	29	1400	0.3993E+02	0.7155E+03			28,317	0,63
R2	NO, 3	27	8	400	0.2747E+02	0.2220E+03			17,090	0,83
R2	NO, 4	27	21	1200	0.2728E+02	0.3379E+03			38,012	0,77
R2	NO, 5	27	52	6000	0.7523E+02	0.3438E+04			26,735	0,41

LLOYD - LIPON MODEL
AIRBORNE
RADAR
IN-HOUSE

171		SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	PBAR	RE
R2	NO, 1	27	162	4988	0.2051E+02	0.1928E+03			19,929	0,91
R2	NO, 2	27	43	1000	0.9757E+01	0.5387E+02			49,546	0,90
R2	NO, 3	25	382	2176	0.2357E+01	0.4265E+01			48,997	0,94
R2	NO, 4	25	315	3984	0.1174E+02	-0.6967E+03			15,137	0,69
R2	NO, 5	27	27	400	0.7558E+01	0.1910E+02			16,948	0,93
R2	NO, 6	27	42	1300	0.1245E+02	0.8613E+02			52,597	0,90

TABLE 4.4 Cont'd)
LLOYD - LIPOW MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	13	1100	0,6355E+02	0,8442E+03			10,161	0,8
R2	NO, 2	27	8	400	0,3792E+02	0,4674E+03			20,187	0,7
R2	NO, 3	25	50	3992	0,4942E+02	-0,1464E+04			11,027	0,8
R2	NO, 4	27	13	800	0,4448E+02	0,7814E+03			29,452	0,70
R2	NO, 5	27	63	4996	0,6519E+02	0,1665E+04			11,355	0,5
R2	NO, 6	25	11	1200	0,7739E+02	0,1899E+04			43,514	0,4

LLOYD - LIPOW MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	536	0,2825E+02	-0,7350E+04			15,839	0,6
R1	NO, 2	23	3	785	0,1065E+03	0,1092E+04			0,048	0,0
R1	NO, 3	23	3	521	0,1689E+03	0,6360E+04			10,948	1,0
R1	NO, 4	21	9	500	0,3341E+02	0,3960E+03			38,447	0,8
R1	NO, 5	21	10	760	0,2698E+02	0,1836E+03			81,733	0,7

TABLE 4.4 (Cont'd)
LLOYD - LIPOW MODEL
AIRBORNE
COMPUTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	26	3	407	0,8454E+02	0,2229E+04		27,340	0,7
R2	NO, 2	27	77	3994	0,5310E+02	0,5927E+03		29,028	0,4
R2	NO, 3	27	12	400	0,2823E+02	0,1304E+03		8,240	0,8
R2	NO, 4	27	27	1400	0,4361E+02	0,7338E+03		18,627	0,7
R2	NO, 5	27	14	800	0,4281E+02	0,6797E+03		20,134	0,6

LLOYD - LIPOW MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	3	500	0,1177E+03	0,1632E+04		6,403	0,0
R1	NO, 2	21	7	760	0,6479E+02	0,7218E+03		98,138	0,5

LLOYD - LIPOW MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,5505E+02	0,4952E+03		37,150	0,6
R3	NO, 2	20	11	767	0,3584E+02	0,2063E+03		48,793	0,8

TABLE 4.4 (Cont'd)
LLOYD - LIPOW MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	10	760	0,4990E+02	0,5216E+03			52,570	0,1

LLOYD - LIPOW MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	4	767	0,9842E+02	0,6891E+03			320,260	0,5
R3	NO. 2	20	6	782	0,3069E+02	0,2287E+03			21,363	0,9

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LLOYD - LIPOW MODEL
AIRBORNE
LASER XMT R / RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	17	760	0,2733E+02	0,1778E+03			88,303	0,9
R1	NO. 2	21	10	500	0,3435E+02	0,1734E+03			41,543	0,9

TABLE (Cont'd)
LLOYD - LIPOW MODEL
AIRBORNE
LASER XMT R / RCVR
IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	14	782	0,2605E+02	0,2317E+03			44,052	0,833
R3	NO. 2	20	15	767	0,2452E+02	0,9126E+02			106,781	0,824

LLOYD - LIPOW MODEL
AIRBORNE
INFRARED RECEIVER
IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	711	-,2324E+03	-,2046E+06			25,436	0,326
R1	NO. 2	23	5	785	0,1146E+03	-,1212E+05			12,712	0,812
175 R1	NO. 3	23	8	536	0,3538E+02	-,1731E+05			17,557	0,533

LLOYD - LIPOW MODEL
AIRBORNE
INFRARED RECEIVER
IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	65	2500	0,2036E+02	0,1705E+03			85,868	0,78

TABLE 4.4 (Cont'd)
LLOYD - LIPOW MODEL
AIRBORNE
SYSTEM - RADAR
IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
H2	NO. 1	27	103	798	0,3749E+01	0,9260E+01			45,169	0,91
R2	NO. 2	27	127	1097	0,5033E+01	0,1634E+02			33,223	0,90
R2	NO. 3	27	65	599	0,2876E+01	0,4326E+01			28,526	0,92
R2	NO. 4	25	347	1192	0,2025E+01	0,3183E+01			39,450	0,92
H2	NO. 5	27	316	2500	0,5645E+01	0,2028E+02			36,490	0,84
R2	NO. 6	25	371	3981	0,9243E+01	-0,8033E+03			13,800	0,58

LLOYD - LIPOW MODEL
AIRBORNE
SYSTEM - LASER
IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	27	760	0,1343E+02	0,4172E+02			132,175	0,71
1/41	NO. 2	21	19	500	0,1651E+02	0,8371E+02			35,575	0,58

LLOYD - LIPOW MODEL
AIRBORNE
SYSTEM - LASER
IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	17	767	0,2669E+02	0,1011E+03			109,543	0,78
R3	NO. 2	20	17	782	0,2163E+02	0,2032E+03			50,533	0,84

TABLE 4.4 Cont'd
 LLOYD - LIPOW MODEL
 AIRBORNE
 SYSTEM - INFRARED
 IN - HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	FBAR	
R1	NO. 1	23	17	536	0,5775E+01	-,6889E+04			32,368	0
R1	NO. 2	23	11	785	0,4496E+02	-,1660E+04			16,578	0
R1	NO. 3	23	5	521	0,1047E+03	-,1650E+04			14,027	1
R1	NO. 4	23	4	711	0,7034E+02	-,1528E+05			10,730	0

TABLE 4.4 (Cont'd)
LLOYD-LIPPOW MODEL
AIRBORNE
SYSTEM - INFRARED
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	24	3	227	0.3106E+02	-0.3899E+04			8,058	0.4
R3	NO. 2	24	3	344	0.8643E+02	0.1810E+04			2,147	0.0
R3	NO. 3	24	3	789	0.1283E+03	0.1890E+04			9,951	0.1
R3	NO. 4	24	4	411	0.9197E+02	0.7309E+03			10,528	1.4
R3	NO. 5	24	3	433	0.8761E+02	-0.8876E+04			4,651	0.3
R3	NO. 6	24	3	472	0.1125E+03	0.3061E+04			12,122	0.8
R3	NO. 7	24	8	1056	0.8721E+02	0.1807E+04			51,924	0.5
R3	NO. 8	24	3	324	-0.6699E+02	-0.2467E+05			4,776	0.0
R3	NO. 9	24	3	440	0.7952E+02	0.1511E+04			55,978	0.4
R3	NO. 10	24	4	519	0.1515E+03	0.2280E+04			12,836	0.2
178 R3	NO. 11	24	4	349	0.7854E+02	0.3743E+03			13,828	0.1
R3	NO. 12	24	3	255	0.1684E+02	-0.8411E+04			10,404	0.4
R3	NO. 13	24	3	390	0.2071E+02	-0.5631E+04			12,661	0.6
R3	NO. 14	24	4	563	0.1253E+03	0.4017E+04			9,045	0.2
R3	NO. 15	24	3	307	0.4019E+02	0.4565E+03			38,038	0.3
R3	NO. 16	24	3	345	-0.1495E+03	-0.2103E+05			13,679	0.2
R3	NO. 17	24	3	705	-0.1493E+03	-0.1067E+06			15,522	0.4
R3	NO. 18	24	4	448	0.8948E+02	0.9161E+03			103,874	0.5
R3	NO. 19	24	4	529	0.1078E+03	0.2953E+04			4,541	0.0
R3	NO. 20	24	4	354	0.7342E+02	0.6017E+03			11,465	1.3

TABLE 4.4 (Cont'd)
LLOYD - LIPOW MODEL
AIRBORNE
SYSTEM - INFRARED
FIELD
(CONTINUED)

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO,21	24	4	671	0,1211E+03	0,4669E+04		36,147	0,84
R3	NO,22	24	3	314	0,5061E+02	0,6440E+03		4,194	0,06
R3	NO,23	24	4	378	0,7728E+02	-0,2513E+04		10,246	1,02
R3	NO,24	24	4	385	0,6003E+02	0,4844E+03		36,393	0,58
R3	NO,25	24	3	477	0,1331E+03	0,3239E+04		1,327	0,00
R3	NO,26	24	3	393	0,1056E+03	0,2097E+04		77,101	0,33

LLOYD - LIPOW MODEL
AIRBORNE
SYSTEM - VISUAL SCAN
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,1655E+02	0,5342E+02		27,943	0,57
R2	NO, 2	22	41	549	0,1135E+02	0,5999E+02		19,749	0,71

TABLE 4.4 (Cont'd)
 ARDEF MODEL
 AIRBORNE
 ANTENNA
 IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	25	6	1584	0,1277E+03	-0,9178E+03			15,395	0,2
R2	NO. 2	27	29	1400	0,3855E+02	0,2328E+02			25,804	0,5
R2	NO. 3	27	8	400	0,2671E+02	0,8531E+01			15,156	0,8
R2	NO. 4	27	21	1200	0,2532E+02	0,1485E+02			31,730	0,7
R2	NO. 5	27	52	6000	0,7453E+02	0,8388E+02			21,558	0,3

ARDEF MODEL
 AIRBORNE
 RADAR
 IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
180 R2	NO. 1	27	162	4983	0,1999E+02	0,1095E+02			18,807	0,9
R2	NO. 2	27	43	1000	0,8461E+01	0,5850E+01			36,972	0,9
R2	NO. 3	25	382	2176	0,2119E+01	0,2311E+01			41,701	0,9
R2	NO. 4	25	315	3984	0,1156E+02	-0,4295E+02			14,915	1,1
R2	NO. 5	27	27	400	0,7295E+01	0,2174E+01			15,193	0,9
R2	NO. 6	27	42	1300	0,1068E+02	0,7525E+01			37,846	0,9

TABLE 4.4 (Cont'd)
ARDEF MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	13	1100	0,6297E+02	0,1412E+02			9,788	0,4
R2	NO. 2	27	8	400	0,3688E+02	0,1396E+02			17,468	0,6
R2	NO. 3	25	50	3992	0,4700E+02	-0,2718E+02			10,854	0,8
R2	NO. 4	27	13	800	0,4248E+02	0,2102E+02			25,449	0,6
R2	NO. 5	27	63	4996	0,6497E+02	0,3435E+02			10,531	0,4
R2	NO. 6	25	11	1200	0,7374E+02	0,3900E+02			32,577	0,1

ARDEF MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	536	0,4098E+02	-0,8871E+02			13,763	0,4
R1	NO. 2	23	3	785	0,1067E+02	0,1106E+02			0,024	0,0
R1	NO. 3	23	3	521	0,1680E+03	0,4284E+02			10,531	0,9
R1	NO. 4	21	9	500	0,3058E+02	0,1376E+02			28,281	0,6
R1	NO. 5	21	10	760	0,2274E+02	0,1126E+02			46,945	0,1

TABLE 4.4 (Cont'd)
ARDEF MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R2	NO. 1	26	3	407	0,8291E+02	0,3625E+02			24,248	0.
R2	NO. 2	27	77	3994	0,5192E+02	0,2451E+02			18,475	0.
R2	NO. 3	27	12	400	0,2804E+02	0,4632E+01			8,002	0.
R2	NO. 4	27	27	1400	0,4269E+02	0,1829E+02			17,745	0.
R2	NO. 5	27	14	400	0,4195E+02	0,1946E+02			17,109	0.

ARDEF MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
182	R1	NO. 1	21	3	500	0,1258E+03	0,3303E+02		4,304	0
	R1	NO. 2	21	7	760	0,5774E+02	0,2268E+02		50,560	0

ARDEF MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO. 1	20	7	782	0,5397E+02	0,1762E+02			25,197	0
R3	NO. 2	20	11	767	0,3318E+02	0,1091E+02			32,440	0

TABLE 4.4 (Cont'd)
 ARDEE MODEL
 AIRBORNE
 LASER RECEIVER
 IN-HOUSE

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR
R1 NO, 1	21	10	760	0,4816E+02	0,2023E+02			32,503

ARDEE MODEL
 AIRBORNE
 LASER RECEIVER
 IN-HOUSE

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR
R3 NO, 1	20	4	767	0,5977E+02	0,1679E+02			88,338
R3 NO, 2	20	6	782	0,2982E+02	0,8416E+01			19,740

ARDEE MODEL
 AIRBORNE
 LASER XMT R / RCVR
 IN-HOUSE

	SYSNO	NO, FAIL	HOURS	P1	P2	P3	P4	RBAR
R1 NO, 1	21	17	760	0,2404E+02	0,1235E+02			56,456
R1 NO, 2	21	10	500	0,3391E+02	0,1082E+02			25,949

TABLE 4.4 (Cont'd)

AIRBORNE

LASER XMITR / RCVR

IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO, 1	20	14	782	0,2364E+02	0,1160E+02			31,415	0
R3	NO, 2	20	15	767	0,2006E+02	0,7626E+01			53,872	0

TABLE 4.4 (Cont'd)
ARDEF MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR
R1	NO, 1	23	5	711	0,2676E+02	-0,9102E+03			17,326
R1	NO, 2	23	5	785	0,1177E+03	-0,7729E+02			12,566
R1	NO, 3	23	8	536	0,5290E+02	-0,1550E+03			15,226

ARDEF MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR
R2	NO, 1	27	65	2500	0,1713E+02	0,1341E+02			64,902

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ARDEF MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR
R2	NO, 1	27	103	798	0,3376E+01	0,2736E+01			37,765
R2	NO, 2	27	127	1097	0,4718E+01	0,3586E+01			29,524
R2	NO, 3	27	65	399	0,2708E+01	0,1484E+01			25,260
R2	NO, 4	25	347	1192	0,1876E+01	0,1925E+01			35,443
R2	NO, 5	27	316	2500	0,5310E+01	0,5368E+01			33,955
R2	NO, 6	25	371	3981	0,9197E+01	-0,5555E+02			14,139

TABLE 4.4 (Cont'd)
ARDEF MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R1	NO. 1	21	27	760	0,1055E+02	0,5952E+01			79,665	0.
R1	NO. 2	21	19	500	0,1593E+02	0,8150E+01			26,637	0.

ARDEF MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO. 1	20	17	767	0,2220E+02	0,8085E+01			59,711	0
R3	NO. 2	20	17	782	0,1688E+02	0,1066E+02			36,524	0

ARDEF MODEL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R1	NO. 1	23	17	536	0,1887E+02	-,1279E+03			23,146	0
R1	NO. 2	23	11	785	0,4522E+02	-,2779E+02			15,830	0
R1	NO. 3	23	5	521	0,1037E+03	-,1416E+02			14,137	1
R1	NO. 4	23	9	711	0,7619E+02	-,1297E+03			11,508	0

TABLE 4.4 (Cont'd)
 AROEF MODEL
 AIRBORNE
 SYSTEM - INFRARED
 FIELD

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R3	NO, 1	24	3	227	0,3923E+02	-,5642E+02		7,325	0.
R3	NO, 2	24	3	344	0,9192E+02	0,3386E+02		0,968	0.
R3	NO, 3	24	3	789	0,1361E+03	0,3534E+02		9,916	0.
R3	NO, 4	24	4	411	0,9111E+02	0,7594E+01		10,384	1.
R3	NO, 5	24	3	433	0,9390E+02	-,6660E+02		4,347	0.
R3	NO, 6	24	3	472	0,1144E+03	0,3648E+02		11,930	0.
R3	NO, 7	24	8	1056	0,8295E+02	0,3631E+02		31,768	0.
R3	NO, 8	24	3	324	0,1610E+02	-,2639E+03		1,980	0.
R3	NO, 9	24	3	440	0,7582E+02	0,3375E+02		36,464	0.
R3	NO,10	24	4	519	0,1571E+03	0,3777E+02		12,837	0.
187 R3	NO,11	24	4	349	0,8270E+02	0,2586E+02		9,625	0.
R3	NO,12	24	3	255	0,3514E+02	-,1060E+03		10,642	0.
R3	NO,13	24	3	390	0,3482E+02	-,7707E+02		11,514	0.
R3	NO,14	24	4	563	0,1293E+03	0,4674E+02		7,857	0.
R3	NO,15	24	3	307	0,4013E+02	0,1930E+02		30,163	0.
R3	NO,16	24	3	345	0,1736E+01	-,3490E+03		8,811	0.
R3	NO,17	24	3	705	0,3097E+02	-,5553E+03		12,350	0.
R3	NO,18	24	4	448	0,8055E+02	0,2316E+02		53,116	0.
R3	NO,19	24	4	529	0,1122E+03	0,4092E+02		3,647	0.
R3	NO,20	24	4	354	0,7241E+02	0,7992E+01		11,704	1.

TABLE 4.4 (Cont'd)
 ARDEP MODEL
 AIRBORNE
 SYSTEM - INFRARED
 FIELD
 (CONTINUED)

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO,21	24	4	671	0,1123E+03	0,4756E+02		27,900	0
R3	NO,22	24	3	314	0,5329E+02	0,1948E+02		2,900	0
R3	NO,23	24	4	378	0,7696E+02	-0,2896E+02		10,496	1
R3	NO,24	24	4	385	0,5965E+02	0,1744E+02		22,723	0
R3	NO,25	24	3	477	0,1437E+03	0,4807E+02		0,016	0
R3	NO,26	24	3	393	0,9917E+02	0,4016E+02		41,938	0

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ARDEP MODEL
 AIRBORNE
 SYSTEM - VISUAL SCAN
 IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R2	NO, 1	22	29	766	0,1624E+02	0,6124E+01		20,581	
R2	NO, 2	22	41	549	0,1117E+02	0,6857E+01		18,812	

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	25	6	1584	0,7144E+03	-0,7251E-03			19,535	0,5
R2	NO. 2	27	29	1400	0,2104E+02	0,7516E-03			11,594	0,2
R2	NO. 3	27	8	400	0,1743E+02	0,2430E-02			4,390	0,0
R2	NO. 4	27	21	1200	0,1354E+02	0,1453E-02			6,833	0,0
R2	NO. 5	27	52	6000	0,3685E+02	0,2497E-03			35,232	0,8

SIMPLE EXPONENTIAL
AIRBORNE
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	162	4988	0,1462E+02	0,1568E-03			6,571	0,1
R2	NO. 2	27	43	1000	0,4843E+01	0,1805E-02			7,929	0,0
R2	NO. 3	25	382	2176	0,1237E+01	0,9077E-03			14,150	0,2
R2	NO. 4	25	315	3984	0,1680E+02	-0,1863E-03			12,396	0,4
R2	NO. 5	27	27	400	0,5298E+01	0,2385E-02			4,885	0,0
R2	NO. 6	27	42	1300	0,6003E+01	0,1472E-02			8,494	0,0

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R2	NO. 1	27	13	1100	0,5011E+02	0,3781E+03			7,773	0.
R2	NO. 2	27	8	400	0,2213E+02	0,2060E+02			3,321	0.
P2	NO. 3	25	50	3992	0,5370E+02	-0,3861E+04			12,072	0.
R2	NO. 4	27	13	800	0,2314E+02	0,1358E+02			5,691	0.
R2	NO. 5	27	63	4996	0,4975E+02	0,9812E+04			10,145	0.
R2	NO. 6	25	11	1200	0,2731E+02	0,1456E+02			21,150	0.

SIMPLE EXPONENTIAL
AIRBORNE
COMPUTER
IN-HOUSE

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		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R1	NO. 1	23	5	536	0,1077E+03	-0,2291E+02			16,180	0.
R1	NO. 2	23	3	785	0,9229E+02	0,3778E+03			0,924	0.
R1	NO. 3	23	3	521	0,1070E+03	0,8579E+03			5,944	0.
R1	NO. 4	21	9	500	0,1602E+02	0,2595E+02			6,760	0.
R1	NO. 5	21	10	760	0,8080E+01	0,4028E+02			29,270	0.

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R2	NO. 1	26	3	407	0,3248E+02	0,3680E+02			12,364	0.
R2	NO. 2	27	77	3994	0,2898E+02	0,2258E+03			40,855	1.
R2	NO. 3	27	12	400	0,2302E+02	0,8219E+03			3,702	0.
R2	NO. 4	27	27	1400	0,2918E+02	0,4804E+03			6,623	0.
R2	NO. 5	27	14	800	0,2470E+02	0,1155E+02			5,099	0.

SIMPLE EXPONENTIAL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
161 R1	NO. 1	21	3	500	0,1857E+02	0,5866E+02			32,714	0.
R1	NO. 2	21	7	760	0,1290E+02	0,3659E+02			32,903	0.

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R3	NO. 1	20	7	782	0,1964E+02	0,2928E-02			29,427	0.
R3	NO. 2	20	11	767	0,1494E+02	0,2303E-02			25,729	0.

SIMPLE EXPONENTIAL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R1	NO. 1	21	10	760	0,1376E+02	0,3238E-02			31,731	0.

SIMPLE EXPONENTIAL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R3	NO. 1	20	4	767	0,8095E+01	0,4480E-02			35,063	0.
R3	NO. 2	20	6	782	0,2002E+02	0,2628E-02			16,361	0.

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
LASER XMT R / RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	PF
R1	NO. 1	21	17	760	0,6779E+01	0,3521E-02			34,147	0,7
R1	NO. 2	21	10	500	0,1012E+02	0,4665E-02			38,006	0,8

SIMPLE EXPONENTIAL
AIRBORNE
LASER XMT R / RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	14	782	0,1229E+02	0,2201E-02			13,370	0,0
R3	NO. 2	20	15	767	0,7025E+01	0,3090E-02			44,769	0,1

SIMPLE EXPONENTIAL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	711	0,9025E+03	-0,3250E-02			22,776	0,4
R1	NO. 2	23	5	785	0,1618E+03	-0,2197E-03			16,094	1,2
R1	NO. 3	23	8	536	0,1454E+03	-0,1385E-02			15,960	0,7

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R2	NO, 1	27	65	2500	0,6645E+01	0,9951E-03		27,044	0

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R2	NO, 1	27	103	798	0,1975E+01	0,2040E-02		8,294	0
R2	NO, 2	27	127	1097	0,2975E+01	0,1111E-02		5,248	0
R2	NO, 3	27	65	399	0,1808E+01	0,3312E-02		5,028	0
R2	NO, 4	25	347	1192	0,1128E+01	0,1138E-02		10,941	0
R2	NO, 5	27	316	2500	0,3074E+01	0,4945E-03		21,769	0
R2	NO, 6	25	371	3981	0,1312E+02	-0,1747E-03		13,277	0

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R1	NO, 1	21	27	760	0,3105E+01	0,4172E-02		41,249	0
R1	NO, 2	21	19	500	0,7472E+01	0,3098E-02		20,309	0

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM - LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	17	767	0,7221E+01	0,2855E-02			42,785	0,1
R3	NO. 2	20	17	782	0,9762E+01	0,2289E-02			7,767	0,0

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM - INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	17	536	0,4616E+02	-0,1118E-02			27,639	0,9
R1	NO. 2	23	11	785	0,5108E+02	0,4042E-04			17,829	1,1
R1	NO. 3	23	5	521	0,1072E+03	0,7252E-04			15,511	1,3
R1	NO. 4	23	9	711	0,1881E+03	-0,1188E-02			8,682	0,2

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM - INFRARED
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
	R3	NO. 1	24	3	227	0,9881E+02	-0,3422E-02		10,045	0
	R3	NO. 2	24	3	344	0,3319E+02	0,4068E-02		12,135	0
	R3	NO. 3	24	3	789	0,1568E+02	0,6827E-02		18,864	0
	R3	NO. 4	24	4	411	0,7689E+02	0,5532E-03		8,461	0
	R3	NO. 5	24	3	433	0,1667E+03	-0,1091E-02		6,669	0
	R3	NO. 6	24	3	472	0,5717E+02	0,2222E-02		13,067	1
	R3	NO. 7	24	8	1056	0,2731E+02	0,1830E-02		23,964	0
	R3	NO. 8	24	3	324	0,4789E+03	-0,1060E-01		5,140	0
	R3	NO. 9	24	3	440	0,1636E+02	0,6543E-02		10,872	0
	R3	NO. 10	24	4	519	0,1753E+02	0,4962E-02		26,420	0
	R3	NO. 11	24	4	349	0,2004E+02	0,5041E-02		31,215	0
	R3	NO. 12	24	3	255	0,1973E+03	-0,6581E-02		9,955	0
196	R3	NO. 13	24	3	390	0,1131E+03	-0,4122E-02		13,830	0
	R3	NO. 14	24	4	563	0,5949E+02	0,1731E-02		12,761	0
	R3	NO. 15	24	3	307	0,1007E+02	0,1152E-01		16,060	0
	R3	NO. 16	24	3	345	0,1569E+04	-0,3284E-01		11,048	0
	R3	NO. 17	24	3	705	0,8487E+03	-0,4792E-02		14,716	0
	R3	NO. 18	24	4	448	0,1198E+02	0,5863E-02		25,003	0
	R3	NO. 19	24	4	529	0,5127E+02	0,1973E-02		12,273	0
	R3	NO. 20	24	4	354	0,6133E+02	0,6031E-03		10,657	1

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO,21	24	4	671	0,5013E+02	0,1794E-02			11,661	0,074
R3	NO,22	24	3	314	0,2155E+02	0,6013E-02			9,022	0,238
R3	NO,23	24	4	378	0,1178E+03	-0,1227E-02			9,761	0,845
R3	NO,24	24	4	385	0,1469E+02	0,5782E-02			39,472	0,366
R3	NO,25	24	3	477	0,3221E+02	0,4106E-02			21,296	0,667
R3	NO,26	24	3	393	0,1571E+02	0,5930E-02			11,535	0,007

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SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM - VISUAL SCAN
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,8622E+01	0,1888E-02			26,263	0,611
R2	NO, 2	22	41	549	0,7372E+01	0,1315E-02			10,326	0,253